

=> fil reg; d stat que l32; d stat que l40
FILE 'REGISTRY' ENTERED AT 17:28:25 ON 30 MAR 2005
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STRUCTURE FILE UPDATES: 29 MAR 2005 HIGHEST RN 847544-86-9
DICTIONARY FILE UPDATES: 29 MAR 2005 HIGHEST RN 847544-86-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

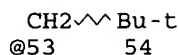
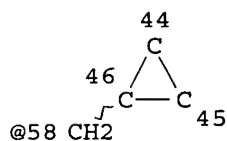
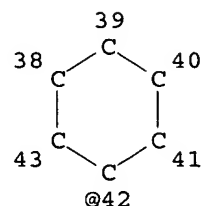
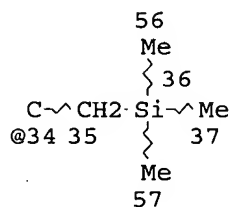
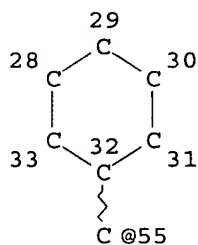
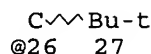
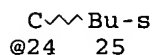
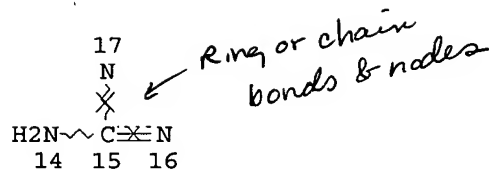
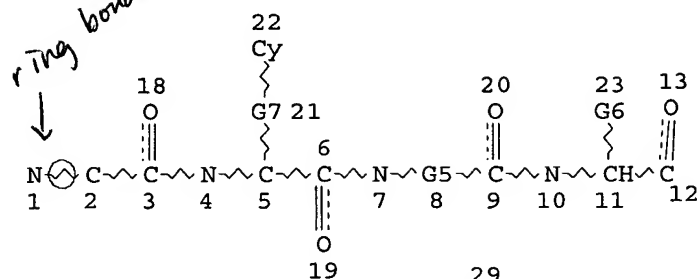
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

L7

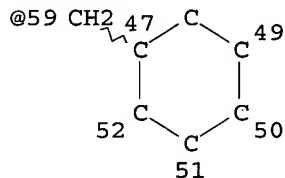
STR

ring bonds & nodes



48

Page 1-A



full file search
done on this
structure

Page 2-A

VAR G5=24/26/55/34/42

VAR G6=58/59/53/I-BU

REP G7=(0-5) CH2

NODE ATTRIBUTES:

NSPEC IS R AT 1

NSPEC IS R AT 2

NSPEC IS RC AT 15

NSPEC IS RC AT 16

NSPEC IS RC AT 17

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 22

DEFAULT ECLEVEL IS LIMITED

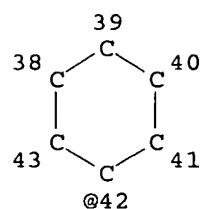
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 59

STEREO ATTRIBUTES: NONE

L11 STR



A chemical structure of a cyclohexane ring. The ring consists of six carbon atoms labeled 47, 48, 49, 50, 51, and 52. A methylene group (CH₂) labeled @59 is attached to atom 47. The atoms are connected in a hexagonal ring: 47-48-49-50-51-52-47.

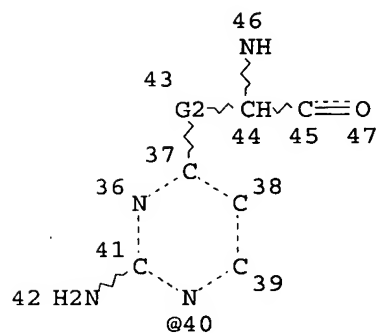
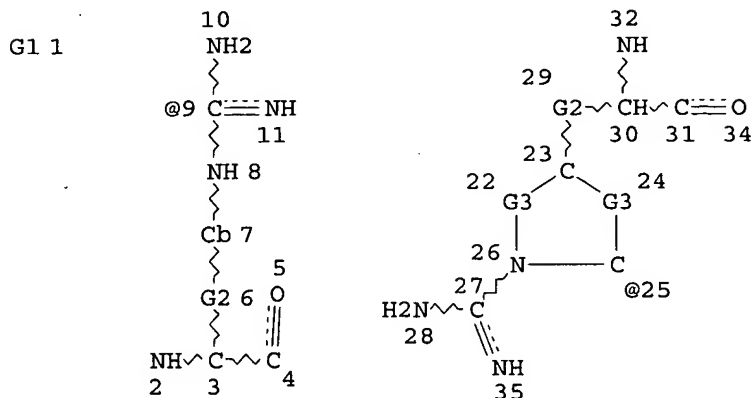
this structure
"NOT" - ed out of
answer set

NUMBER OF NODES IS 68

STEREO ATTRIBUTES: NONE

L15 853 SEA FILE=REGISTRY SSS FUL L7

L16 STR



claim 2

VAR G1=9/25/40

REP G2=(0-6) CH2

REP G3=(1-7) CH2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 36

STEREO ATTRIBUTES: NONE

L17 STR

1 A *

*A = any atom, ring or chain,
with abnormal mass*

NODE ATTRIBUTES:

MASS IS * AT 1

NSPEC IS RC AT 1

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 1

STEREO ATTRIBUTES: NONE

L32 30 SEA FILE=REGISTRY SUB=L15 SSS FUL (((L7 NOT L11) OR L16) AND L17)

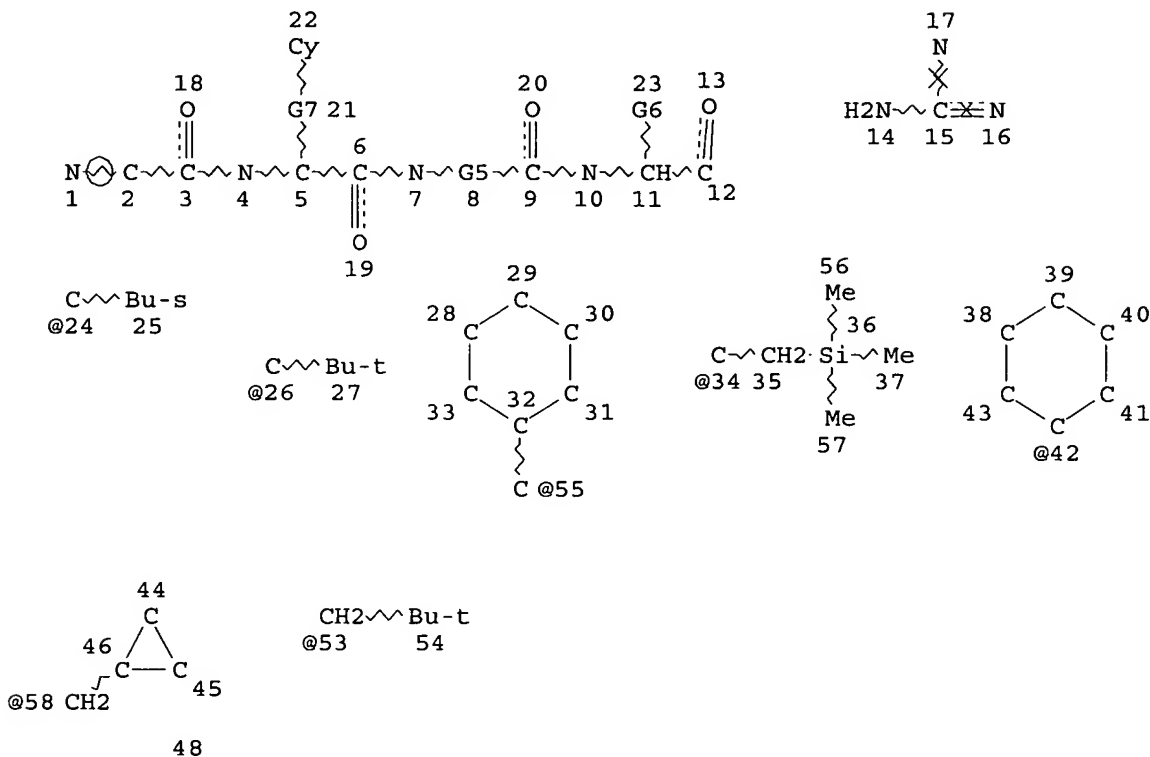
100.0% PROCESSED 853 ITERATIONS
SEARCH TIME: 00.00.01

30 ANSWERS

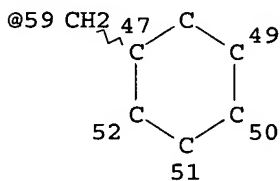
*all answers have
at least 1 atom with
abnormal
mass*

L7

STR



Page 1-A



Page 2-A

VAR G5=24/26/55/34/42

VAR G6=58/59/53/I-BU

REP G7=(0-5) CH2

NODE ATTRIBUTES:

NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS RC	AT	15
NSPEC	IS RC	AT	16
NSPEC	IS RC	AT	17
DEFAULT	MLEVEL IS ATOM		
GGCAT	IS UNS	AT	22

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

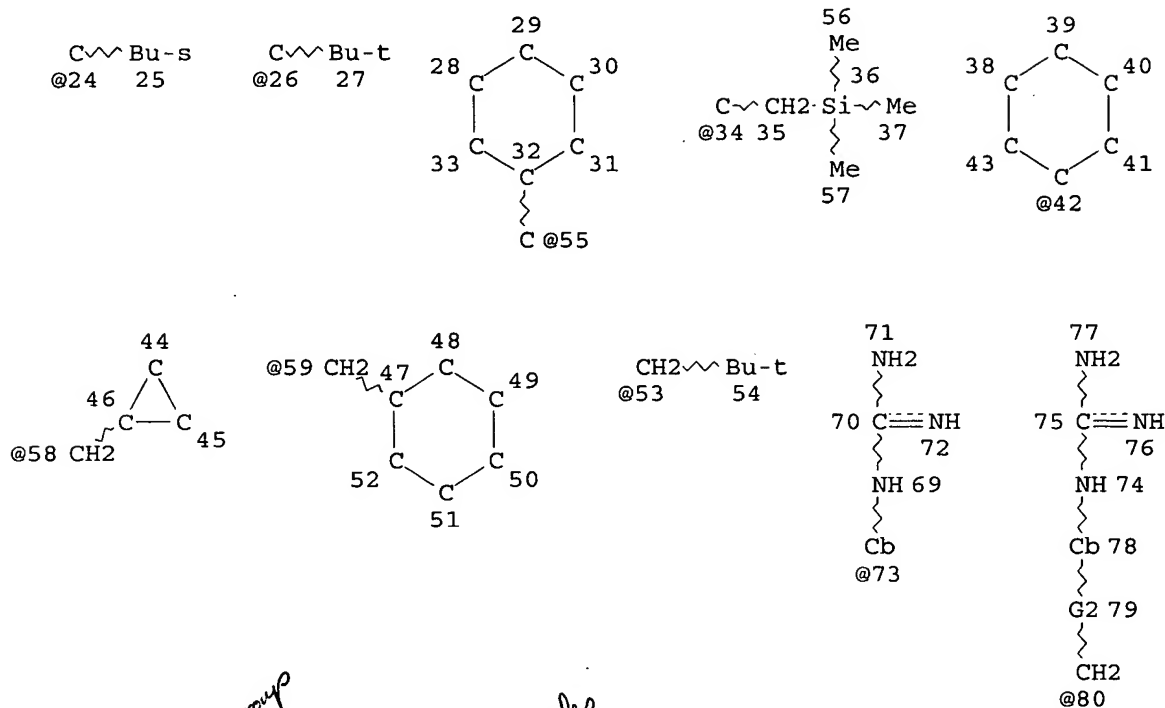
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NUMBER OF NODES IS 59

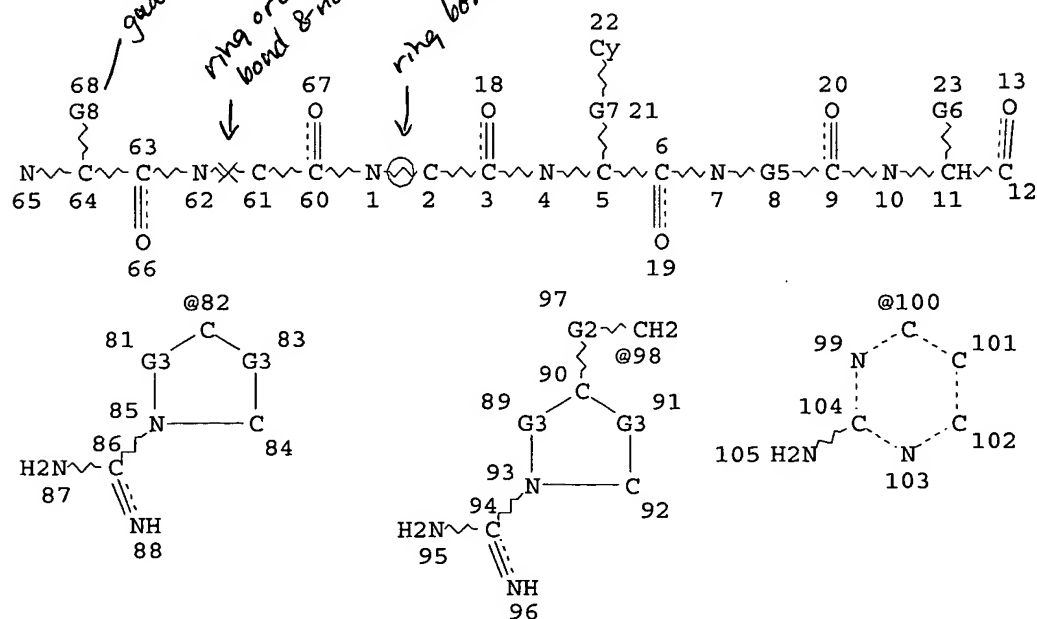
STEREO ATTRIBUTES: NONE

L15 853 SEA FILE=REGISTRY SSS FUL L7

L37 STR

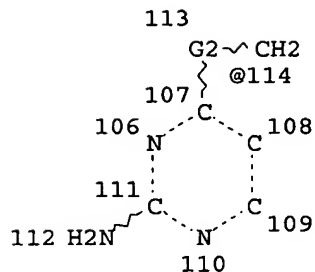


Page 1-A



2nd
search done,
forcing arginine
mimics
(guanidino group -
containing structure)
to be at position
AA,

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Page 3-A

REP G2=(0-5) CH2
 REP G3=(1-7) CH2
 VAR G5=24/26/55/34/42
 VAR G6=58/59/53/I-BU
 REP G7=(0-5) CH2
 VAR G8=73/80/82/98/100/114
 NODE ATTRIBUTES:
 NSPEC IS R AT 1
 NSPEC IS R AT 2
 NSPEC IS RC AT 61
 NSPEC IS RC AT 62
 DEFAULT MLEVEL IS ATOM
 GGCAT IS UNS AT 22
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 110

STEREO ATTRIBUTES: NONE

L40 74 SEA FILE=REGISTRY SUB=L15 SSS FUL L37

100.0% PROCESSED 840 ITERATIONS
 SEARCH TIME: 00.00.01

74 ANSWERS *answers have*
guanidino group
at position AA,

=> s l32 or l40
 L43 84 L32 OR L40

=> fil capl toxcenter prousddr
 FILE 'CAPLUS' ENTERED AT 17:28:52 ON 30 MAR 2005
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FILE 'TOXCENTER' ENTERED AT 17:28:52 ON 30 MAR 2005
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FILE 'PROUSDDR' ENTERED AT 17:28:52 ON 30 MAR 2005
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=> s l43
 L44 16 L43

=> dup rem l44

DUPLICATE IS NOT AVAILABLE IN 'PROUSDDR'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L44

L45 11 DUP REM L44 (5 DUPLICATES REMOVED)
ANSWERS '1-10' FROM FILE CAPLUS
ANSWER '11' FROM FILE PROUSDDR

=> d ibib ed abs hitstr 1-10; d iall 11; fil hom

L45 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2003:469885 CAPLUS

DOCUMENT NUMBER: 139:185489

TITLE: Novel Bioactive and Stable Neurotensin Peptide Analogs
Capable of Delivering Radiopharmaceuticals and
Molecular Beacons to Tumors

AUTHOR(S): Achilefu, Samuel; Srinivasan, Ananthacari; Schmidt,
Michelle A.; Jimenez, Hermo N.; Bugaj, Joseph E.;
Erion, Jack L.

CORPORATE SOURCE: Mallinckrodt Institute of Radiology, Washington
University School of Medicine, St. Louis, MO, 63110,
USA

SOURCE: Journal of Medicinal Chemistry (2003), 46(15),
3403-3411

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 20 Jun 2003

AB The prevalence of neurotensin receptor (NTR) in several human tumors makes it an attractive target for the delivery of cytotoxic drugs and imaging agents. Native neurotensin (NT) is a tridecapeptide that binds to NTR and induces tumor growth. Unfortunately, NT has a short plasma half-life, which hinders its use for in vivo biomedical applications. Numerous reports suggest that Arg(8)-Arg(9) and Tyr(11)-Ile(12) amide bonds are particularly susceptible to degradation by proteolytic enzymes. Predicated on this observation, we substituted Arg(8), Arg(9), and Ile(12) amino acids with the corresponding com. available mimics. These surrogate amino acids are amenable to standard Fmoc peptide synthesis strategy, and the resulting compds. are stable in biol. media for >4 h and bind to NTR with high affinity. Furthermore, conjugating DTPA to the new peptides and subsequent labeling with ¹¹¹In-DTPA for nuclear imaging or fluorescein for optical imaging did not diminish the NTR binding affinities of the peptides. In vivo biodistribution of a representative ¹¹¹In-DTPA-NT peptide analog in SCID mice bearing NTR-pos. human adenocarcinoma (HT29) xenograft shows that the compound was primarily retained in tumor tissue (2.2% ID/g) and the kidneys (4.8% ID/g) at 4 h postinjection. Coinjection of cold NT and the radiolabeled NT peptide analog inhibited the tumor but not the kidney uptake, demonstrating that retention of the radiolabeled compound in tumor tissue was mediated by NTR specific uptake while it accumulates in the kidneys by a nonspecific mechanism. These findings show that the new NT peptide analogs are robust and can deliver imaging agents to NTR-pos. tumors such as pancreatic cancer.

IT 578719-69-4P 578719-72-9P 578719-74-1P
578719-80-9P 578719-82-1P 578719-84-3P
578719-86-5P 578719-88-7P 578719-90-1P
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578719-98-9P 578720-00-0P 578720-02-2P
578720-06-6P 578720-08-8P 578720-10-2P
578720-12-4P 579448-97-8P 579448-98-9P

579448-99-0P 579449-00-6P 579449-01-7P

579449-02-8P

RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

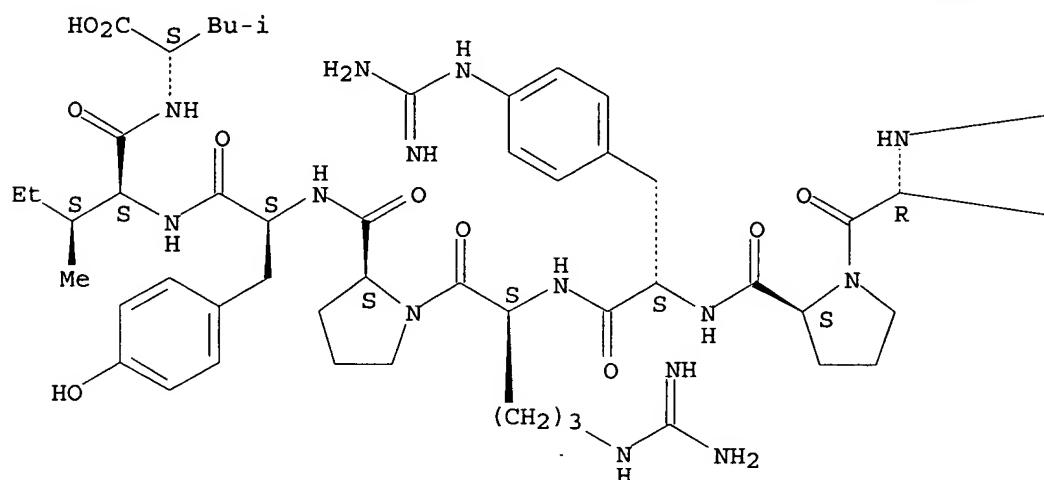
(novel bioactive and stable neurotensin peptide analogs capable of delivering radiopharmaceuticals and mol. beacons to tumors)

RN 578719-69-4 CAPLUS

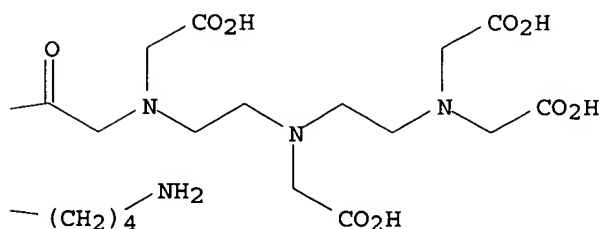
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Absolute stereochemistry.

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PAGE 1-B

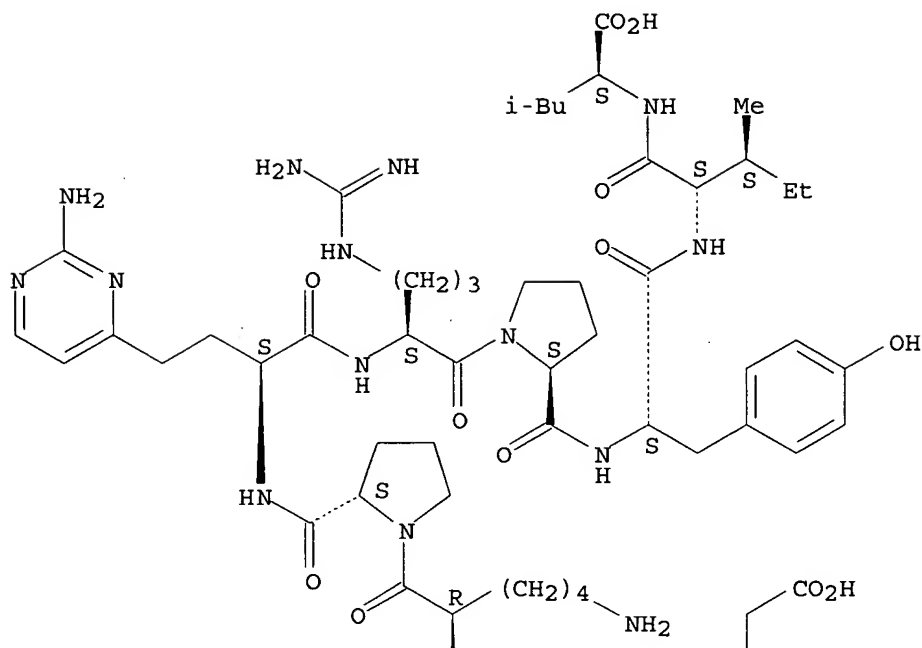


RN 578719-72-9 CAPLUS

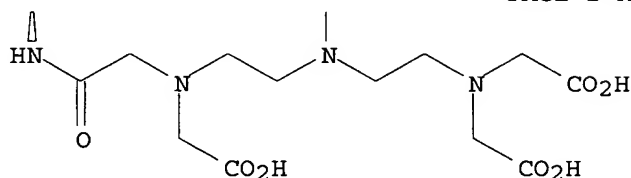
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Absolute stereochemistry.

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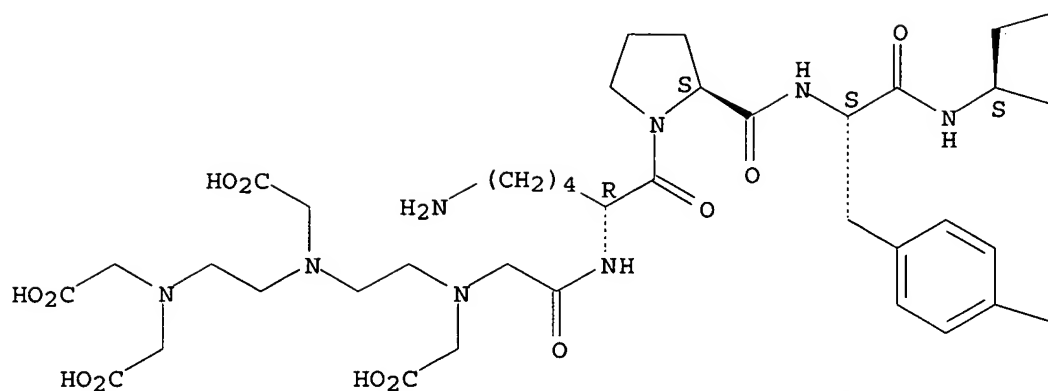


RN 578719-74-1 CAPLUS

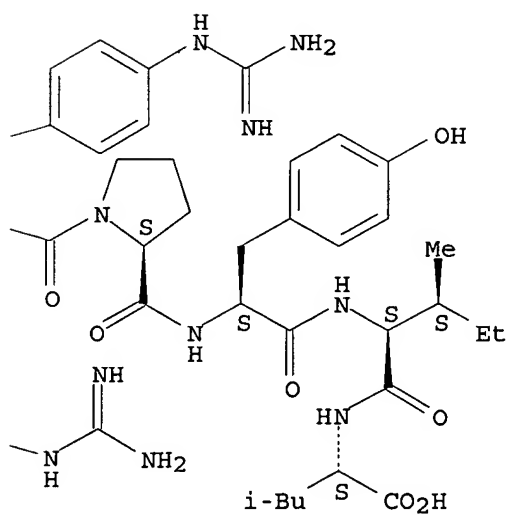
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Absolute stereochemistry.

PAGE 1-A



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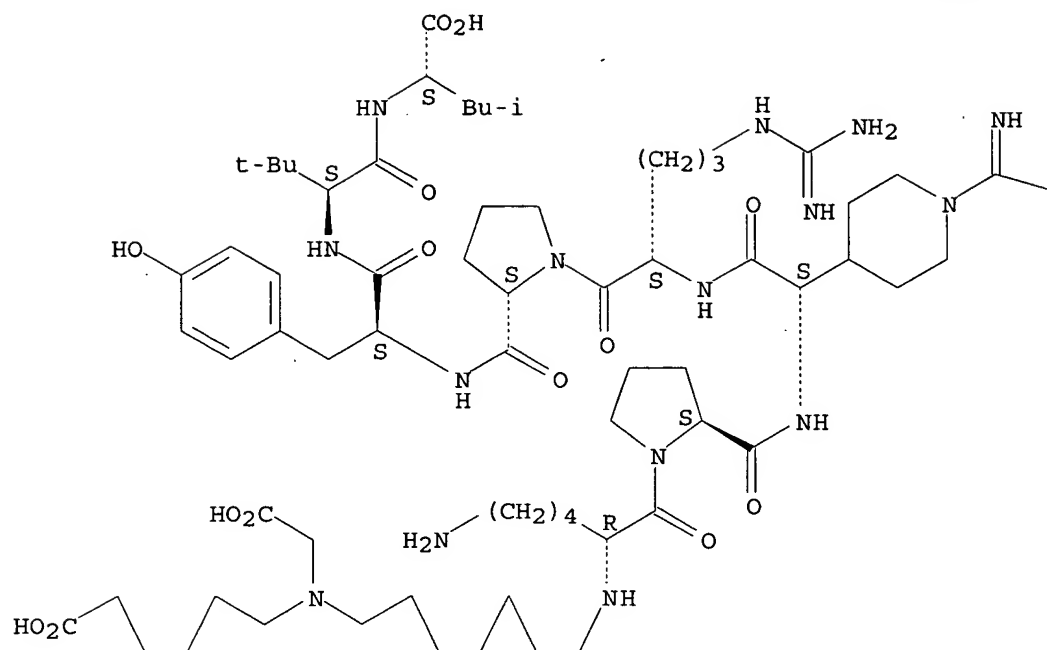


RN 578719-80-9 CAPLUS

CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

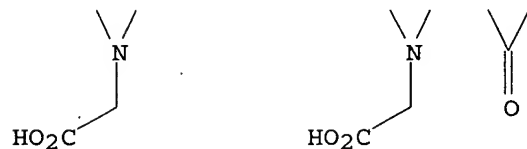
PAGE 1-A



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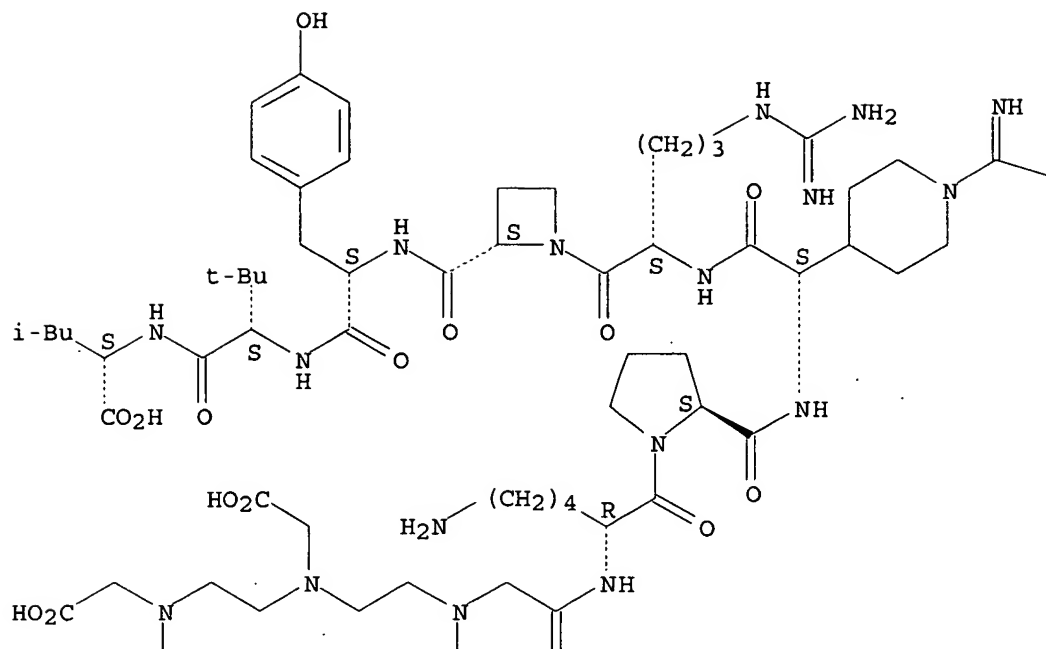


RN 578719-82-1 CAPLUS

CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-(2S)-2-azetidinecarbonyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

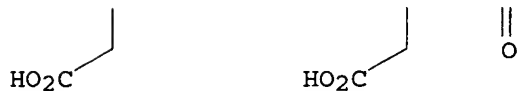
PAGE 1-A



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—NH₂

PAGE 2-A

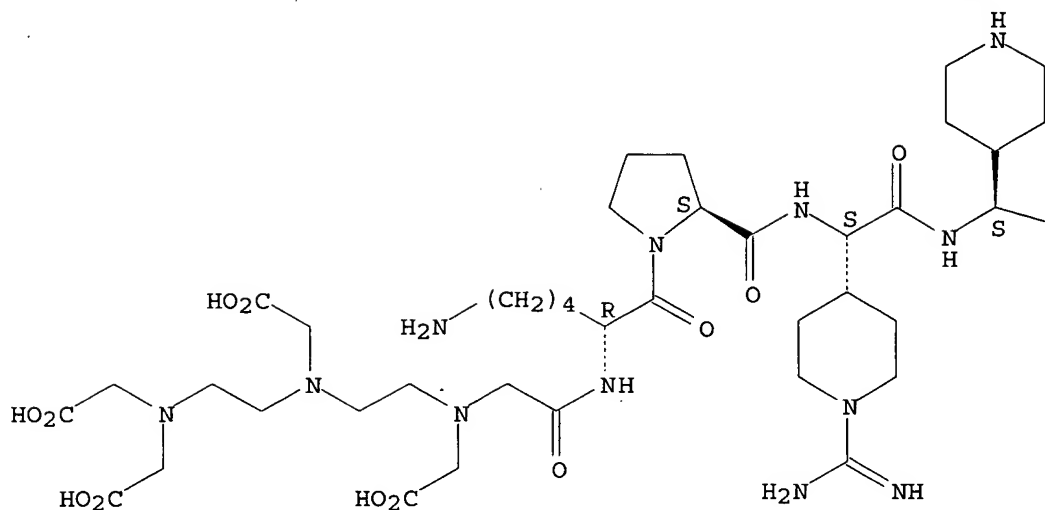


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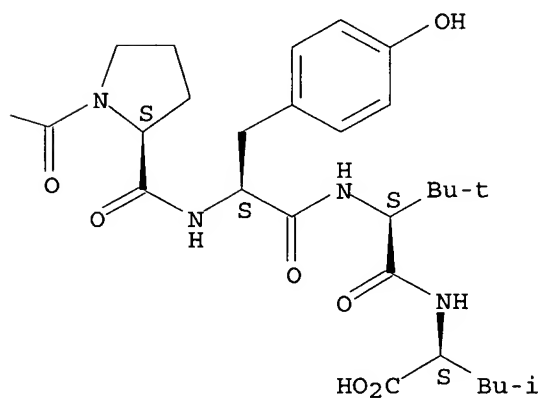
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyllglycyl-(2S)-2-(4-piperidinyllglycyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

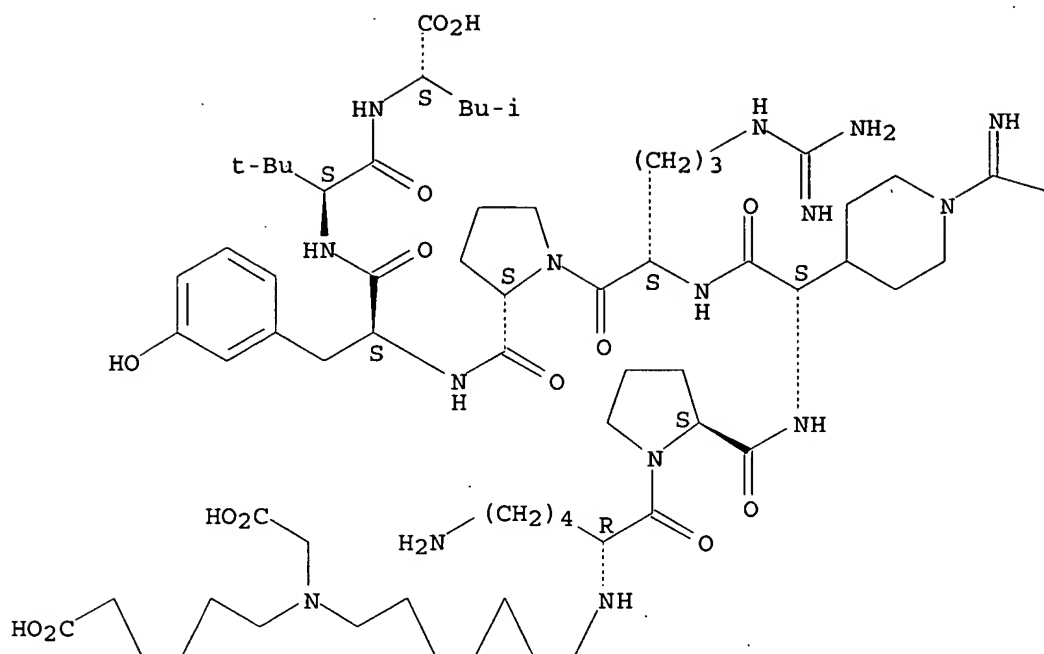


RN 578719-86-5 CAPLUS

CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-3-hydroxy-L-phenylalanyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

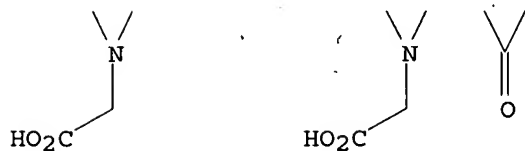
PAGE 1-A



PAGE 1-B

—NH₂

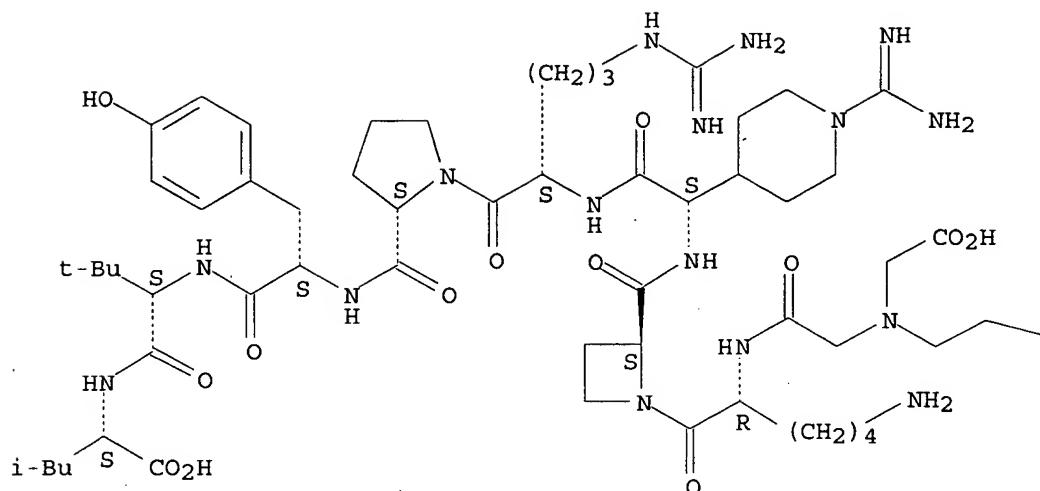
PAGE 2-A



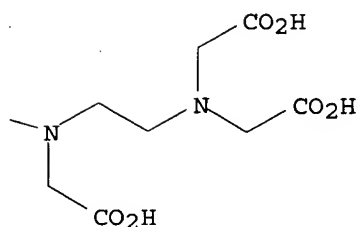
RN 578719-88-7 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-(2S)-2-azetidinecarbonyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

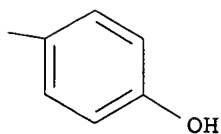


RN 578719-90-1 CAPLUS

CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-3-(4-piperidinyl)-L-alanyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

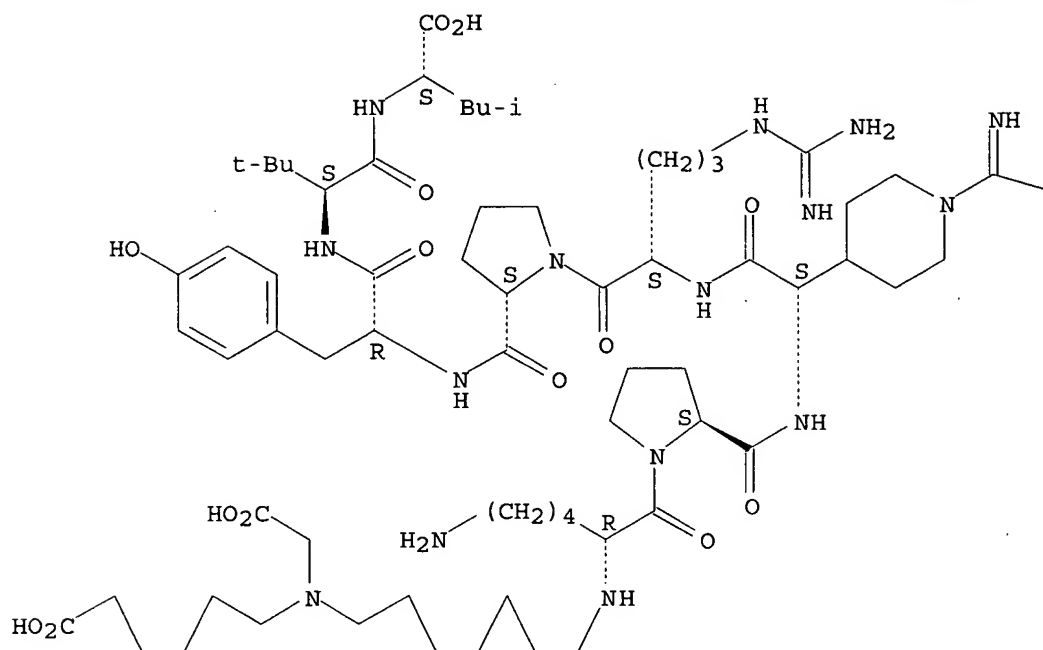
PAGE 1-B



CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-D-tyrosyl-3-methyl-L-valyl- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

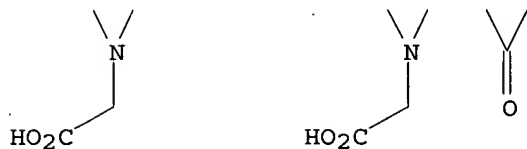
PAGE 1-A



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—NH₂

PAGE 2-A

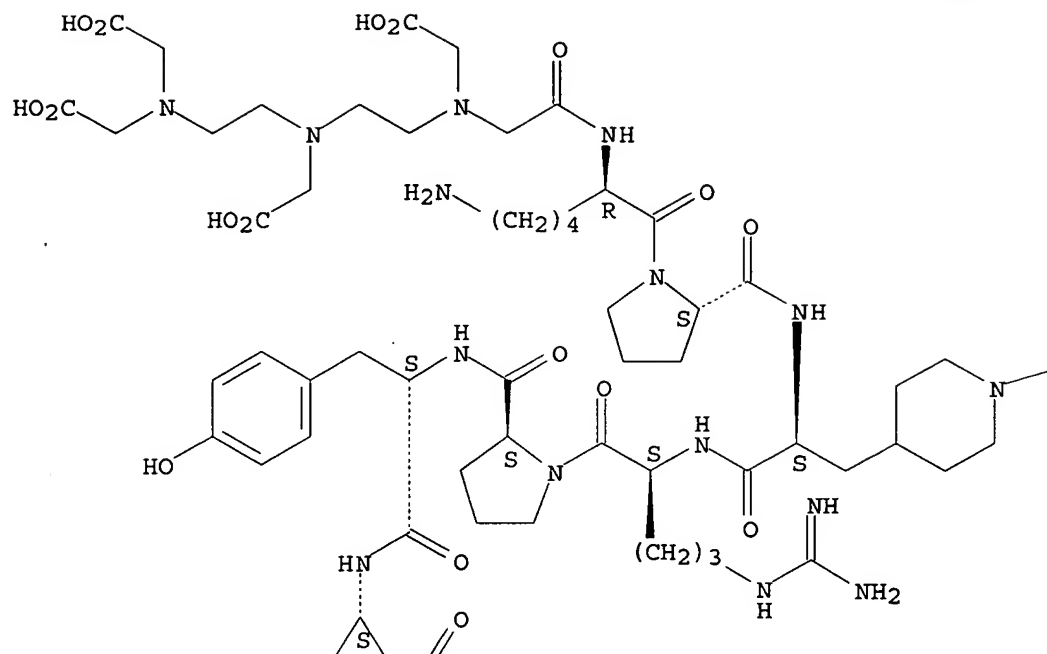


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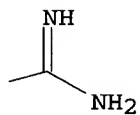
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(CA INDEX NAME)

Absolute stereochemistry.

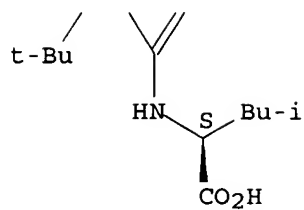
PAGE 1-A



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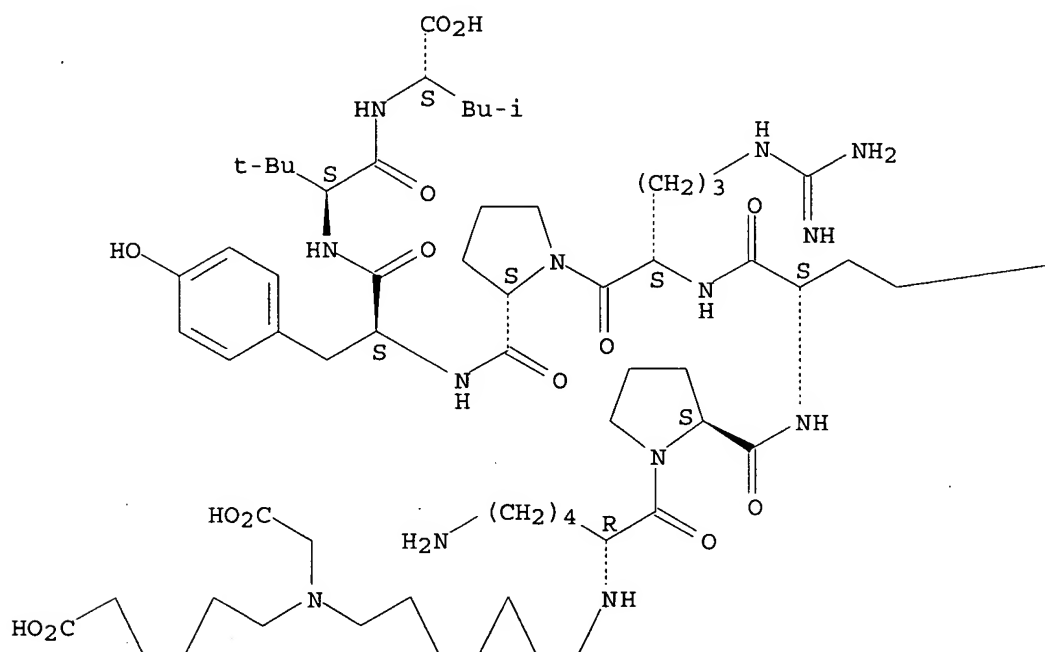


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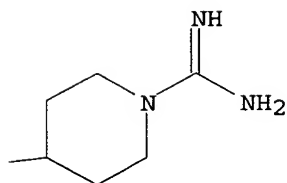
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(α S)- α -amino-1-(aminoiminomethyl)-4-piperidinebutanoyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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PAGE 2-A

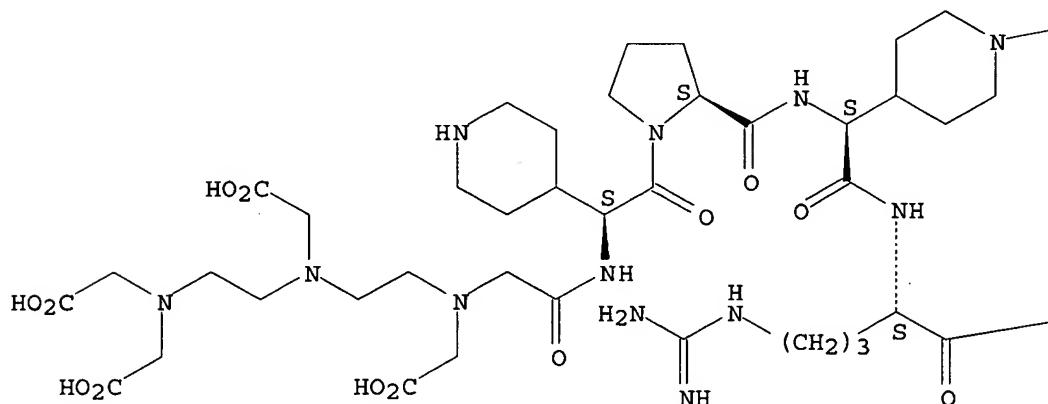


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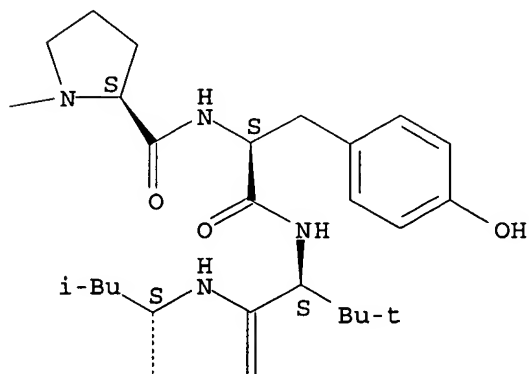
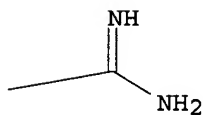
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Absolute stereochemistry.

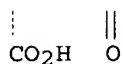
PAGE 1-A



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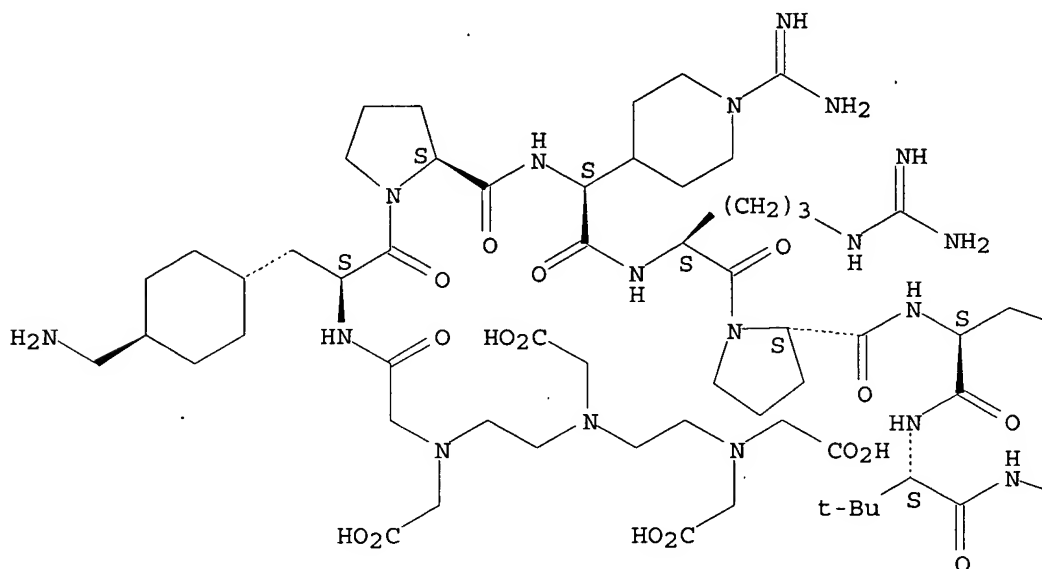


RN 578720-00-0 CAPLUS

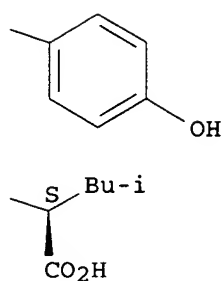
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Absolute stereochemistry.

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PAGE 1-B

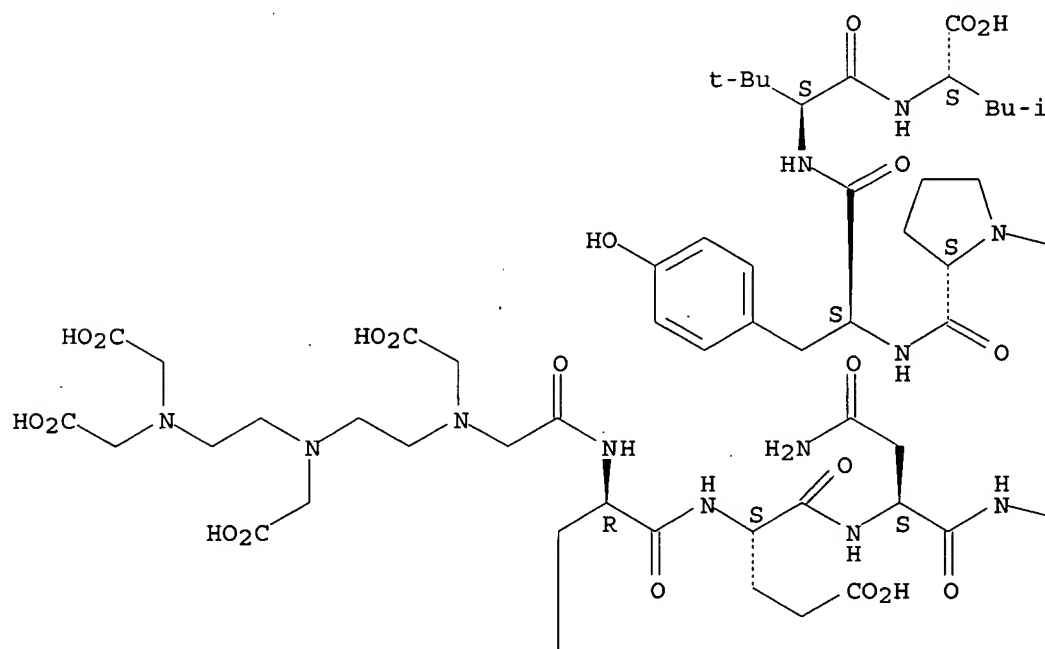


RN 578720-02-2 CAPLUS

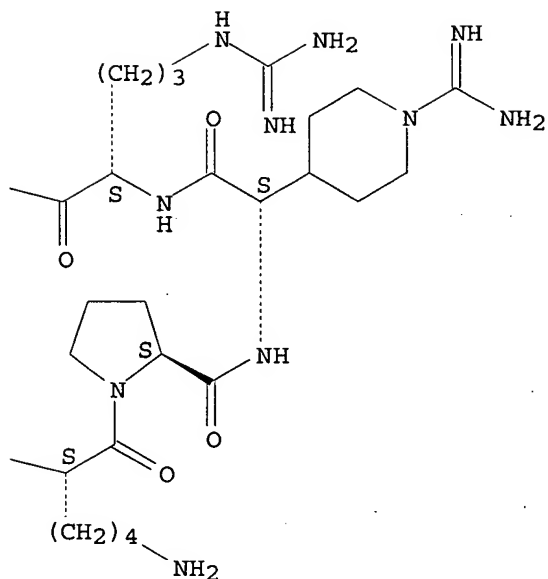
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Absolute stereochemistry.

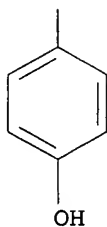
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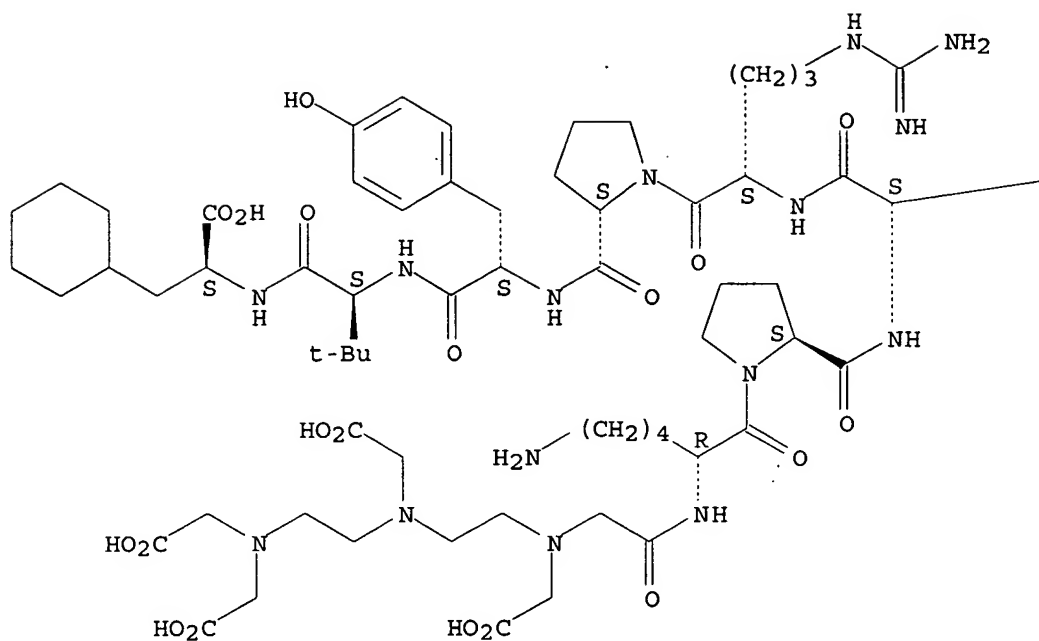
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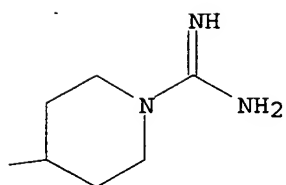
RN 578720-06-6 CAPLUS
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Absolute stereochemistry.

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RN 578720-08-8 CAPLUS

CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-4-methyl- (9CI) (CA INDEX NAME)

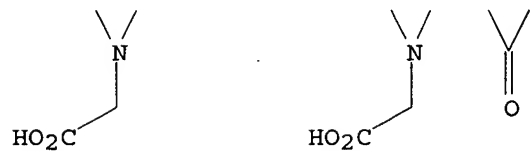
Absolute stereochemistry.

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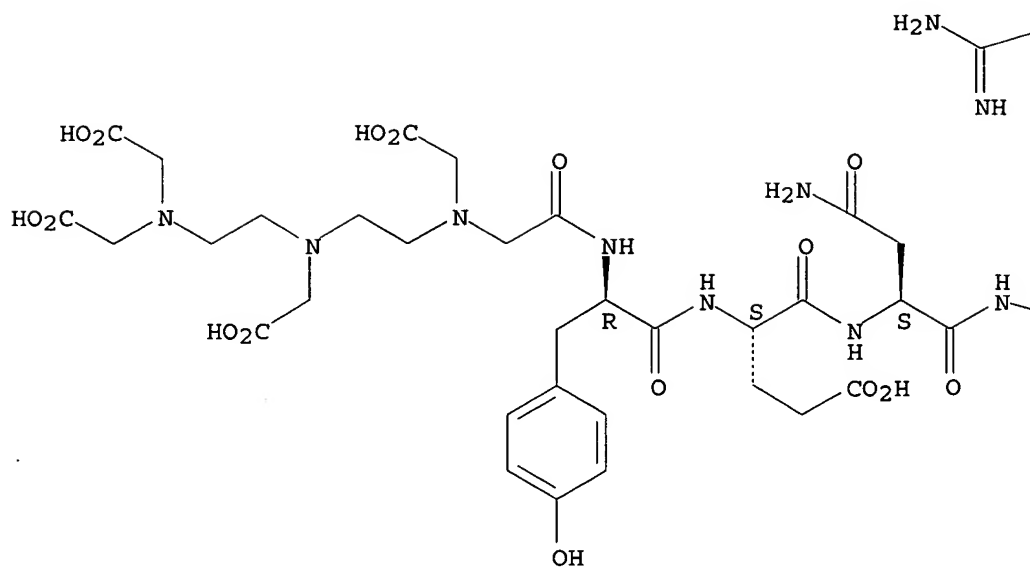
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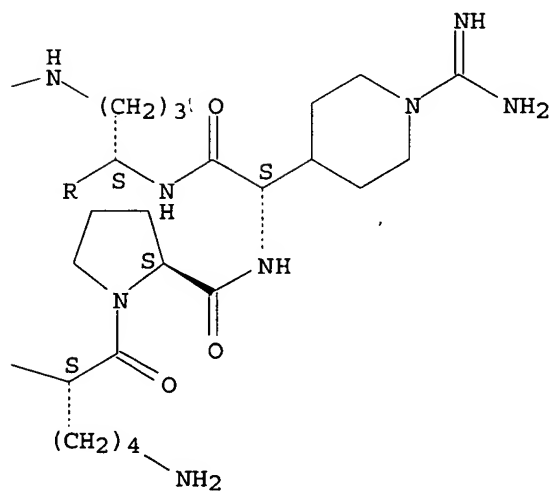
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Absolute stereochemistry.

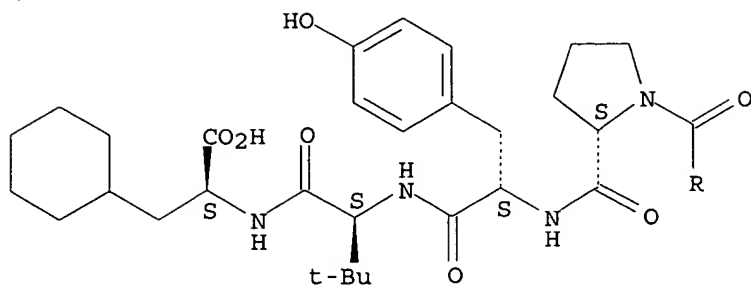
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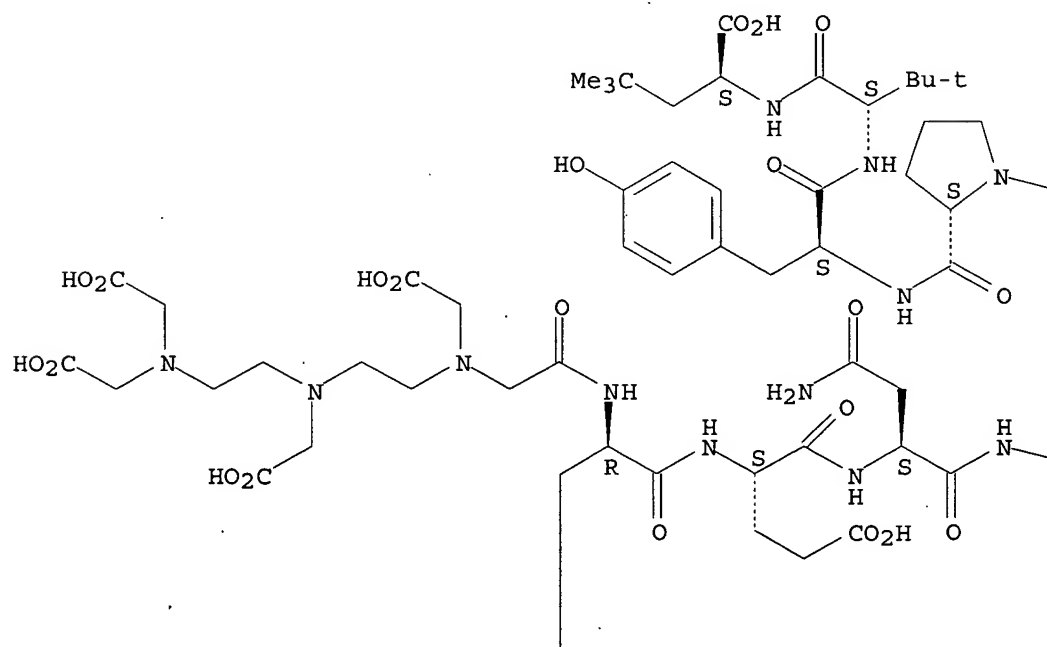


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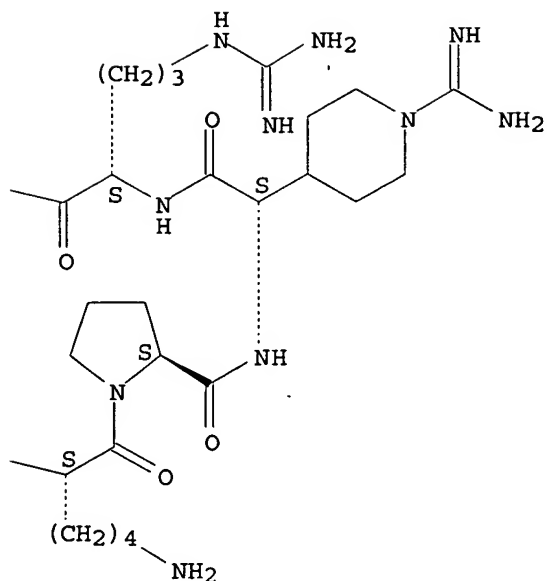
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Absolute stereochemistry.

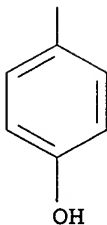
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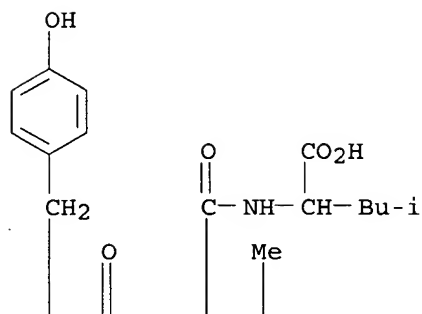
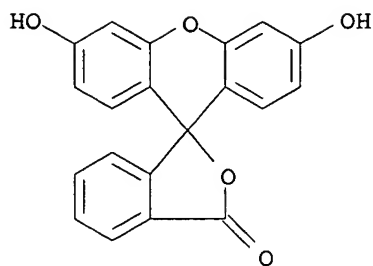


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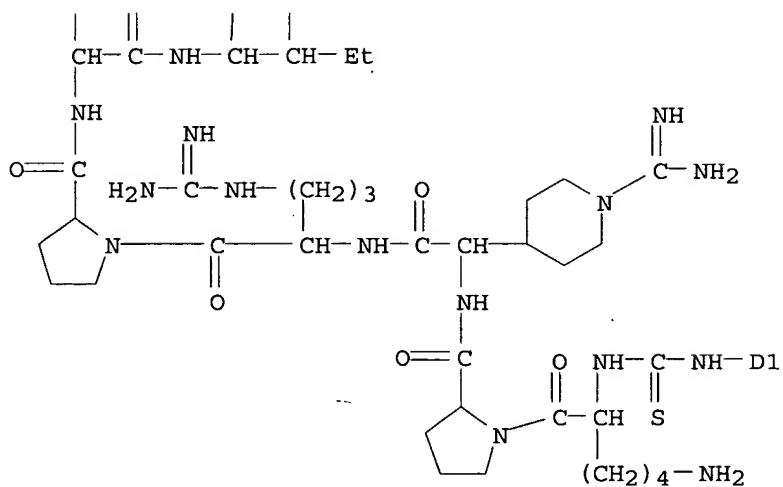


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CN	6-13-Neurotensin (cattle), 6-[N2-[[[3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5(or 6)-yl]amino]thioxomethyl]-D-lysine]-8-[(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycine]- (9CI) (CA INDEX NAME)	

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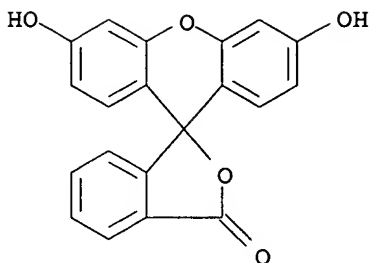


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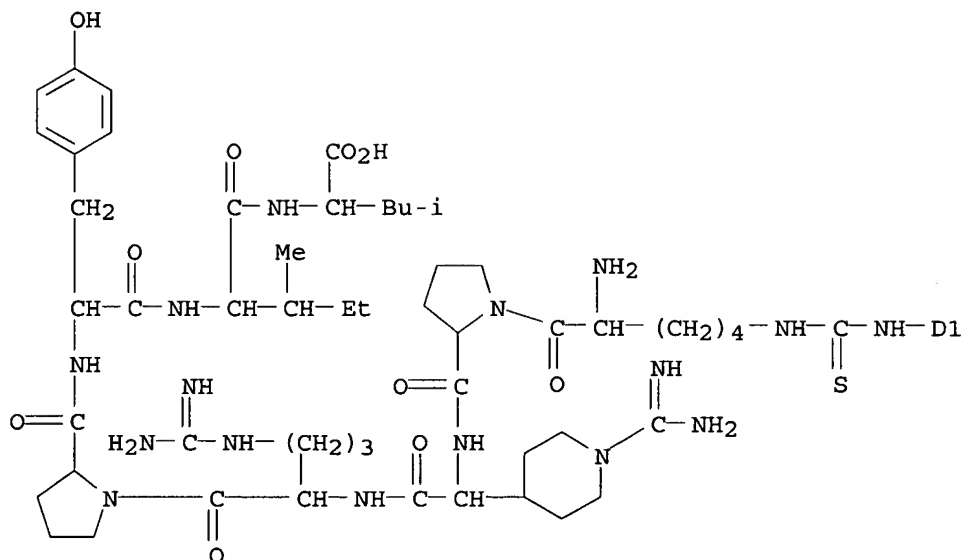


RN 579448-98-9 CAPLUS
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RN 579448-99-0 CAPLUS

CN 6-13-Neurotensin (cattle), 6-[N2,N6-bis[[[3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9']-[9H]xanthen]-5(or 6)-yl]amino]thioxomethyl]-D-lysine]-8-[(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycine]- (9CI) (CA INDEX NAME)

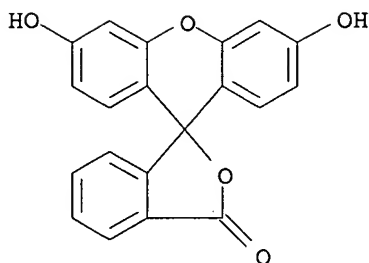
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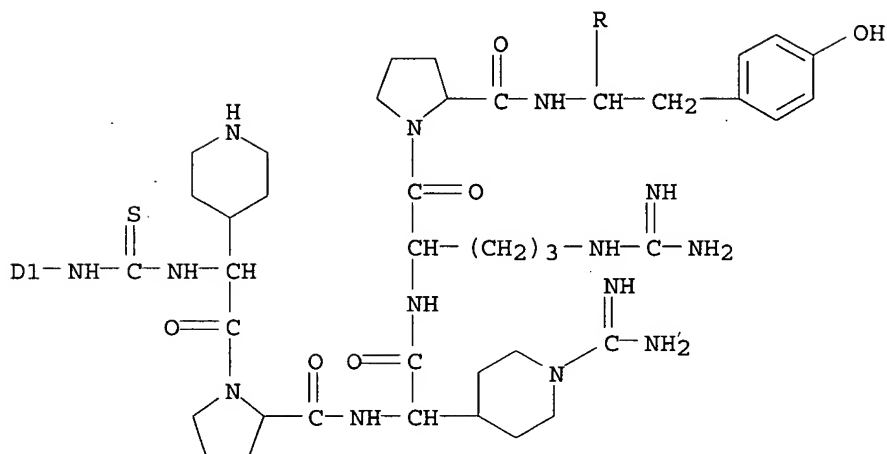
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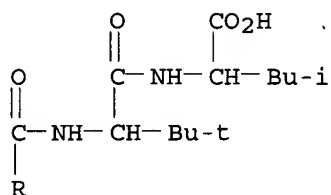
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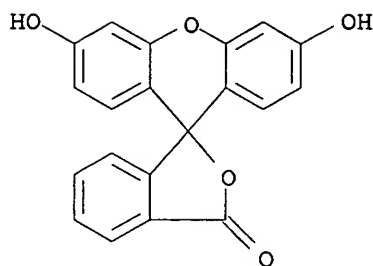


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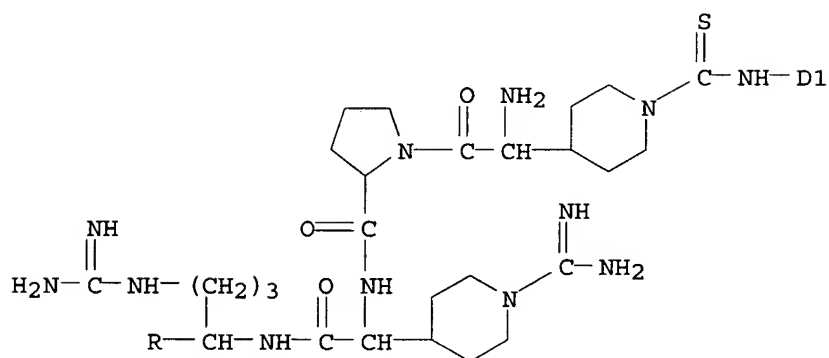


RN 579449-01-7 CAPLUS
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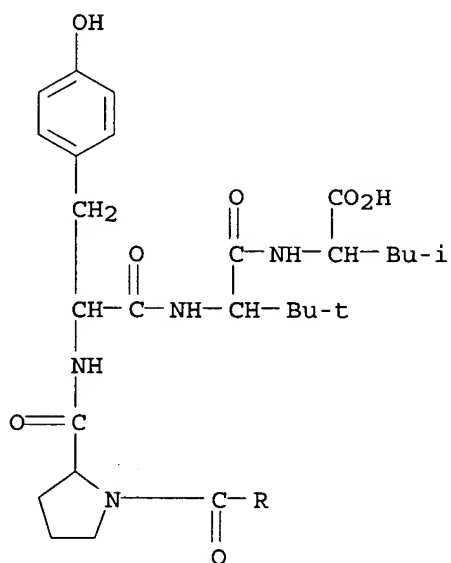
PAGE 1-A



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RN 579449-02-8 CAPLUS
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oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5(or 6)-
yl]amino]thioxomethyl]-4-piperidinyl]glycyl-L-prolyl-(2S)-2-[1-
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methyl-L-valyl- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 2003:884747 CAPLUS

DOCUMENT NUMBER: 140:195456

TITLE: Radiolabeled neurotensin analog, 99mTc-NT-XI,
evaluated in ductal pancreatic adenocarcinoma patients

AUTHOR(S): Buchegger, Franz; Bonvin, Florent; Kosinski, Marek;
Schaffland, Andreas O.; Prior, John; Reubi, Jean C.;
Blaeuenstein, Peter; Tourwe, Dirk; Garayoa, Elisa
Garcia; Delaloye, Angelika Bischof

CORPORATE SOURCE: Division of Nuclear Medicine, University Hospital of
Lausanne, Lausanne, Switz.

SOURCE: Journal of Nuclear Medicine (2003), 44(10), 1649-1654
CODEN: JNMEAQ; ISSN: 0161-5505

PUBLISHER: Society of Nuclear Medicine

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Nov 2003

AB The study aim was to assess the safety, biodistribution, tissue kinetics,
and tumor uptake of the 99mTc-labeled neurotensin (NT) analog NT-XI. Four
patients presenting ductal pancreatic adenocarcinoma were studied with
99mTc-NT-XI. Patients were followed by scintigraphy up to 4 h and by
continued blood and urinary sampling until surgery 18-22 h after
injection. Surgical tissue samples were analyzed for radioactivity uptake
and NT receptor expression. No side effects were observed on injection of
99mTc-NT-XI. Blood biol. half-lives α and β were 35 min
(range, 17-62 min) and 230 min (range, 107-383 min), resp. Repeated
whole-body scintigraphy performed in 2 patients showed a single
exponential decrease of whole-body activity with half-lives of 101 and 232
min. Tracer elimination was mainly renal, with 92% and 98% of activity
counted in urine in the first 20 h. Kidney, liver, spleen, and bone
marrow activity uptake was observed in all patients. Tumor was not
visualized in the first 3 patients but could be localized by
tomoscintigraphy in the pancreas head region of patient 4. In vitro
tissue anal. showed high expression of NT receptor in the tumor of patient
4, correlated with the highest tumor radioactivity uptake and the highest
tumor-to-fat radioactivity ratio. In vitro receptor expression was also
pos. in a second patient having a tumor characterized by very low
cellularity; however, the remaining 2 tumors lacked NT receptor
expression. Injection of 99mTc-NT-XI was well tolerated. The in vivo
tumor uptake appeared specific as it was observed in the 1 patient with a
pancreatic tumor that expressed high amts. of NT receptor. The results
are compatible with preclin. animal results and in favor of further
development of radiolabeled NT analogs for diagnosis or therapy of cancer.

IT 662112-41-6

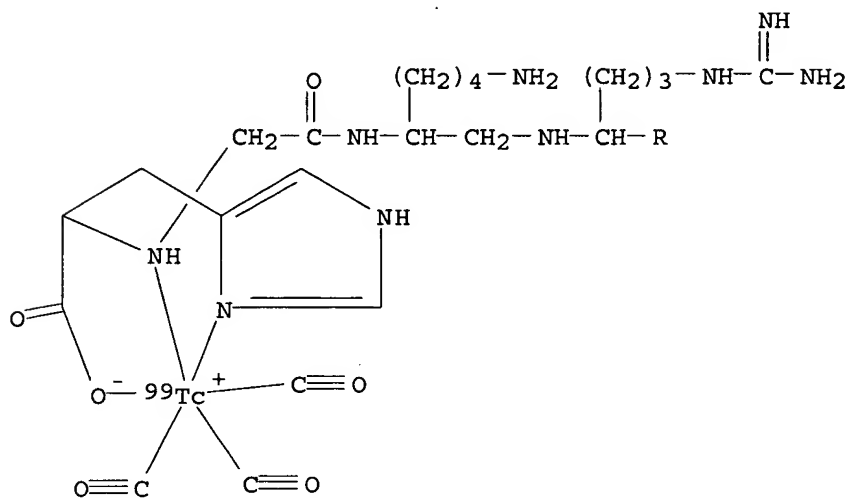
RL: ADV (Adverse effect, including toxicity); DGN (Diagnostic use); PKT (Pharmacokinetics); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(radiolabeled neurotensin analog ^{99m}Tc -NT-XI in ductal pancreatic adenocarcinoma patients)

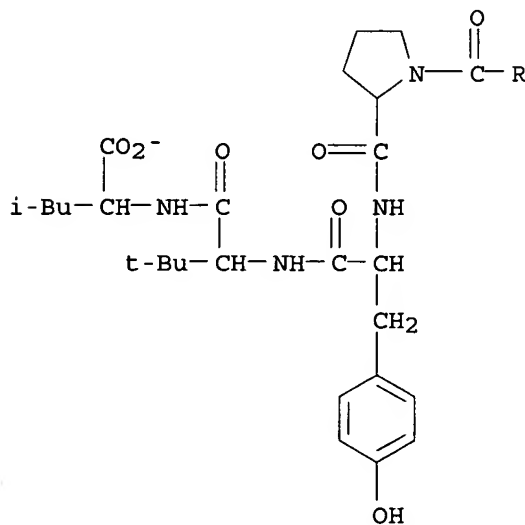
RN 662112-41-6 CAPLUS

CN Technetate(1-)- ^{99}Tc , [N-[(1S)-1-(carboxy- κO)-2-(1H-imidazol-4-yl- κN3)ethyl]glycyl- κN -L-lysyl- ψ (CH₂-NH)-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-L-leucinato(2-)]tricarbonyl-, hydrogen, (OC-6-44)- (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2002:23216 CAPLUS

DOCUMENT NUMBER: 136:275463

TITLE: Biodistribution and catabolism of 18F-labeled neurotensin(8-13) analogs

AUTHOR(S): Bergmann, Ralf; Scheunemann, Matthias; Heichert, Christoph; Mading, Peter; Wittrisch, Holm; Kretzschmar, Marion; Rodig, Heike; Tourwe, Dirk; Iterbeke, Koen; Chavatte, Kris; Zips, Daniel; Reubi, Jean Claude; Johannsen, Bernd

CORPORATE SOURCE: Institut fuer Bioanorganische und Radiopharmazeutische Chemie, Forschungszentrum Rossendorf, Germany

SOURCE: Nuclear Medicine and Biology (2002), 29(1), 61-72

CODEN: NMBIEO; ISSN: 0969-8051

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 10 Jan 2002

AB 4-([18F]fluoro)benzoyl-neurotensin(8-13) (18FB-Arg8-Arg9-Pro10-Tyr11-Ile12-Leu13-OH, 1) and two analogs stabilized in one and two positions (18FB-Arg8ψ(CH2NH)Arg9-Pro10-Tyr11-Ile12-Leu13-OH, 2, 18FB-Arg8ψ(CH2NH)Arg9-Pro10-Tyr11-Tle12-Leu13-OH, 3) were synthesized in a radiochem. yield of 25-36% and a specific activity of 5-15 GBq/mmol. The peptides were evaluated in vitro and in vivo for their potential to image tumors overexpressing neurotensin receptor 1 (NTR1) by positron emission tomog. (PET). All analogs exhibited in vitro binding affinity in the low nanomolar range to NTR1-expressing human tumors, measured by quant. receptor autoradiog., HT-29 and WiDr cells, and to sections of tumors derived from these cell lines in mice. The radiotracers were internalized in the cells in vitro, and the fluorinated peptides were able to mobilize intracellular Ca²⁺ of WiDr cells. In in vivo studies in rats and in mice bearing HT-29 cell tumors, only a moderate uptake of the radioligands into the studied tumors was observed, presumingly due to degradation

in vivo and fast elimination by the kidneys. In comparison with the other analogs, the specific tumor uptake expressed as tumor-to-muscle relation was highest for the radioligand 3. The blood clearance of 3 was reduced by co-injection of peptidase inhibitors. The catabolic pathways of the radiofluorinated peptides were elucidated. The results suggest that the high binding affinity to NTR1 and the stabilization against proteolytic degradation are not yet sufficient for tumor imaging by PET.

IT 266352-47-0 406486-48-4

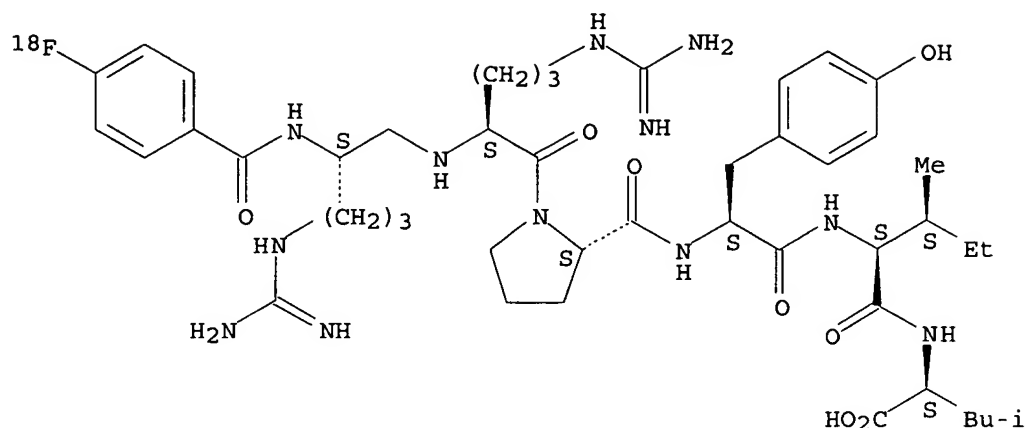
RL: DGN (Diagnostic use); PKT (Pharmacokinetics); BIOL (Biological study); USES (Uses)

(biodistribution and catabolism of 18F-labeled neurotensin(8-13) analogs in relation to their potential to image tumors overexpressing neurotensin receptor 1 by PET)

RN 266352-47-0 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl- (9CI) (CA INDEX NAME)

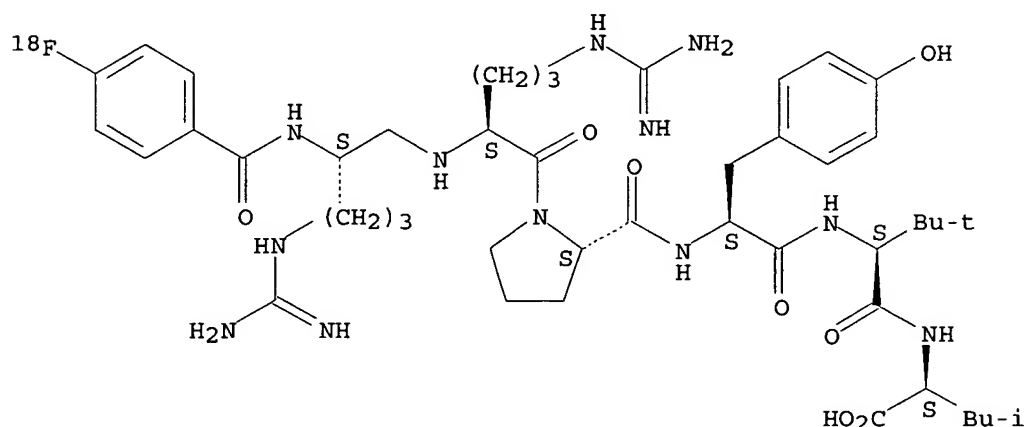
Absolute stereochemistry.



RN 406486-48-4 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 4

ACCESSION NUMBER: 2003:509728 CAPLUS

DOCUMENT NUMBER: 140:211244

TITLE: Serum-stable neurotensin analogs as potential imaging and therapeutic agents for pancreatic cancer

AUTHOR(S): Srinivasan, Ananth; Schmidt, Michelle A.; Erion, Jack L.; Bugaj, Joseph E.; Wilhelm, R. Randy; Webb, Elizabeth G.; Chinen, Lori K.; Reubi, Jean-Claude

CORPORATE SOURCE: Mallinckrodt, Inc., Hazelwood, MO, 63042, USA

SOURCE: Peptides 2000, Proceedings of the European Peptide Symposium, 26th, Montpellier, France, Sept. 10-15, 2000 (2001), Meeting Date 2000, 743-744. Editor(s): Martinez, Jean; Fehrentz, Jean-Alain. Editions EDK:

Paris, Fr.

CODEN: 69EDWK; ISBN: 2-84254-048-4

DOCUMENT TYPE:

Conference

LANGUAGE:

English

ED Entered STN: 04 Jul 2003

AB Novel neurotensin derivs. containing amino acid mimics were synthesized by replacing one or both arginines by its mimic. Replacement of Arg8 by Gly(piperidinylamidino) [Gly(PipAm)] resulted in retention of the binding affinity while increasing the serum stability. Addnl. analogs were prepared by substituting Lys6 with constrained lysines [glycine(piperidinyl) [Gly(Pip)] and trans-(aminomethyl)cyclohexylalanine (tr-(4-CH₂NH₂-Cha))] and leucine12 with cyclohexylalanine (Cha) or t-butyl-alanine. All of these compds. contain DTPA at the N-terminus for the incorporation of In-111 for γ -ray scintigraphy. The binding affinities were measured using frozen tissue sections from receptor-sensitive human tumors and compared against radioiodinated natural neurotensin. The results for the compound containing the sequence DTPA-Gly(Pip)-P-Gly(PipAm)-R-P-Y-tBuGly-L-OH indicated that the tumor uptake is specific and the label is retained in the tumor. Thus, this compound is an ideal agent for the imaging and therapy of exocrine pancreatic cancer.

IT 578719-98-9P 578720-00-0P 578720-02-2P

578720-10-2P 578720-12-4P 664334-81-0P

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PAC (Pharmacological activity); PKT (Pharmacokinetics); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

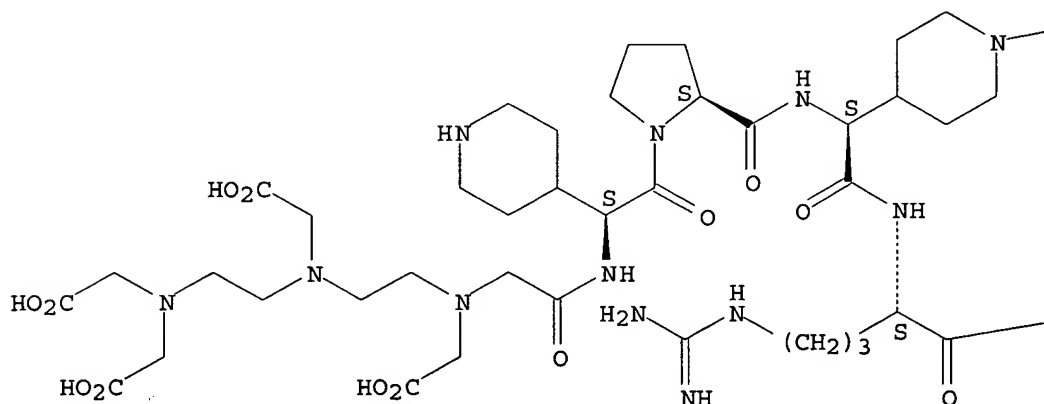
(serum-stable neurotensin analogs as potential imaging and therapeutic agents for pancreatic cancer)

RN 578719-98-9 CAPLUS

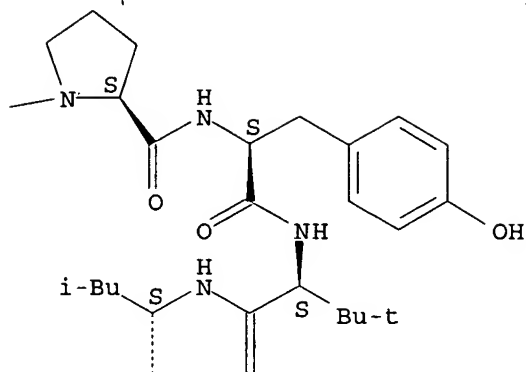
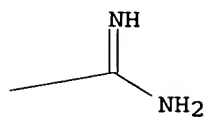
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-(2S)-2-(4-piperidinyl)glycyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

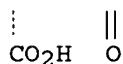
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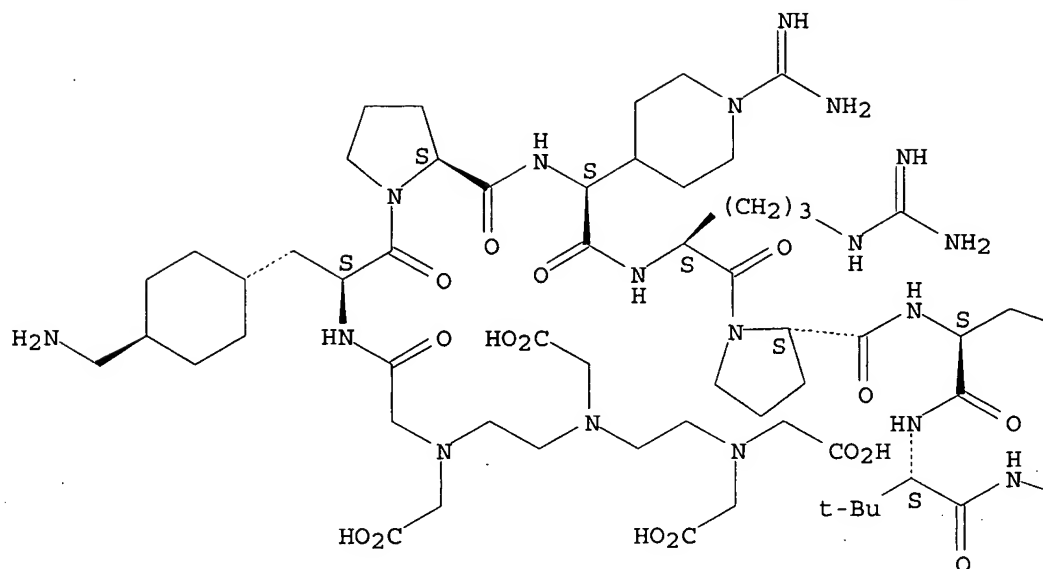
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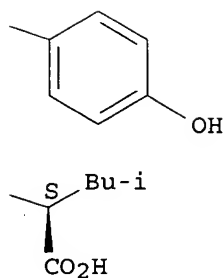
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Absolute stereochemistry.

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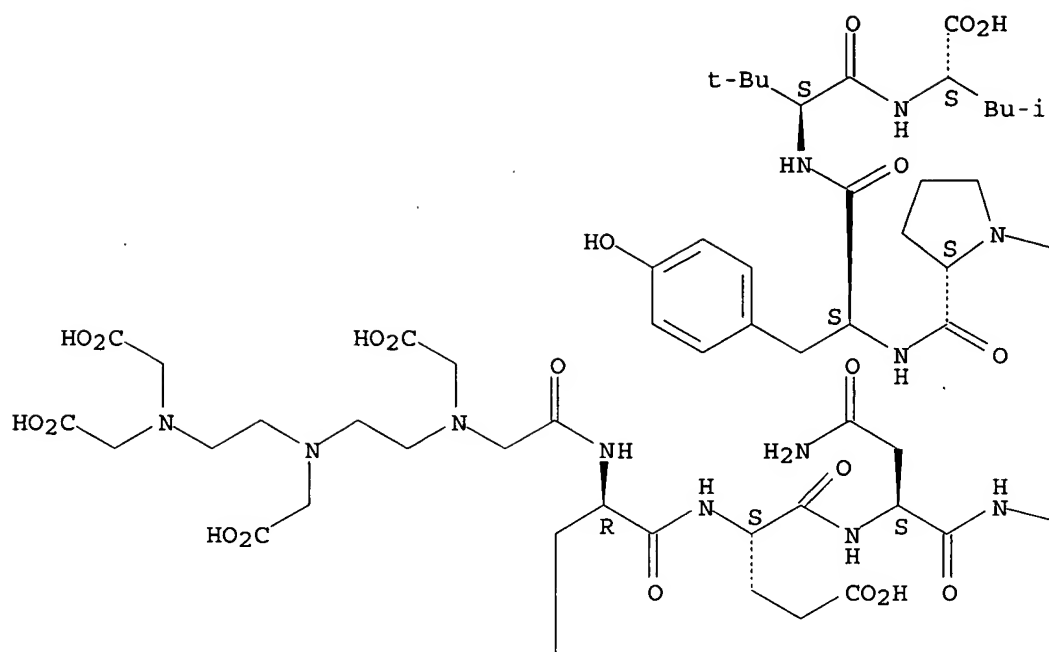


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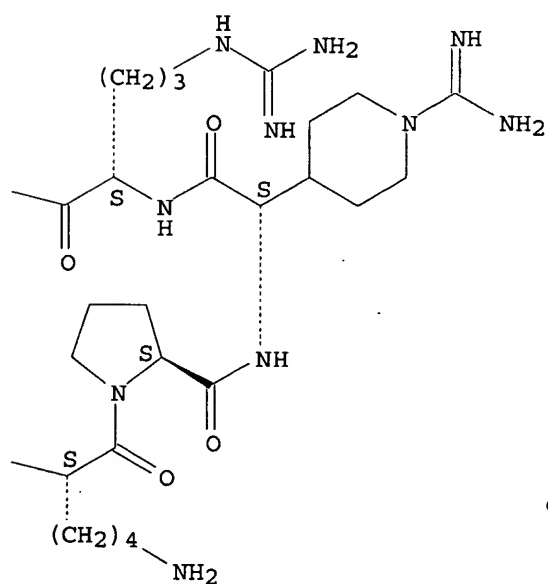
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Absolute stereochemistry.

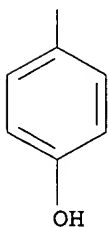
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PAGE 1-B



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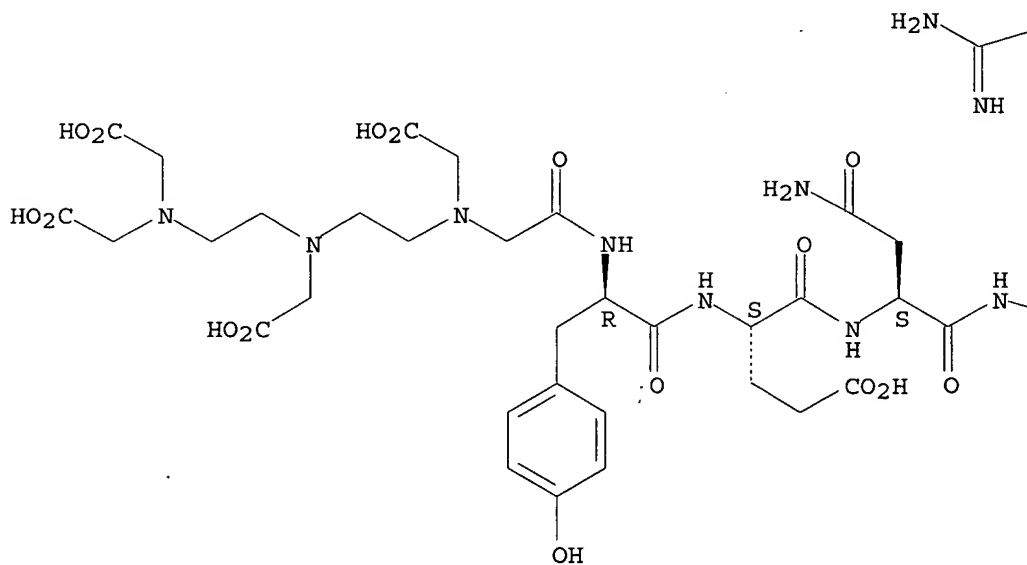


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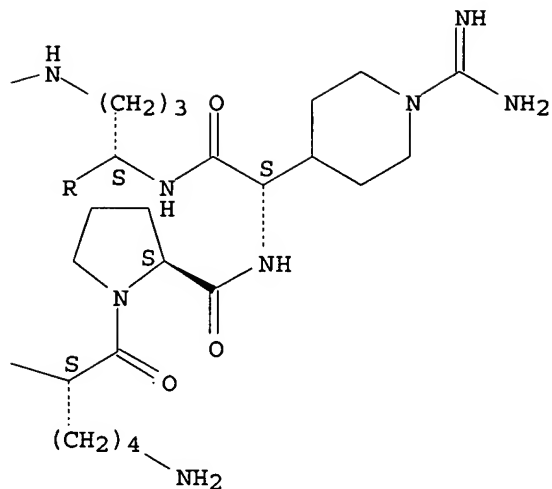
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Absolute stereochemistry.

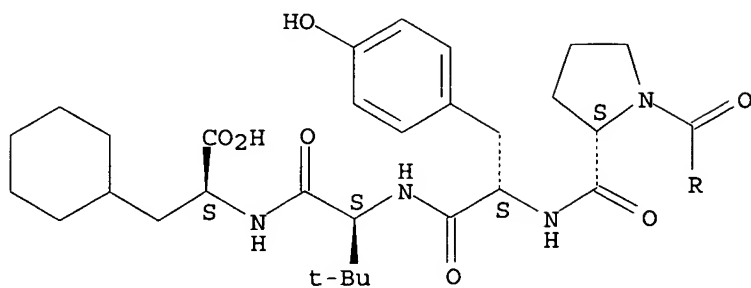
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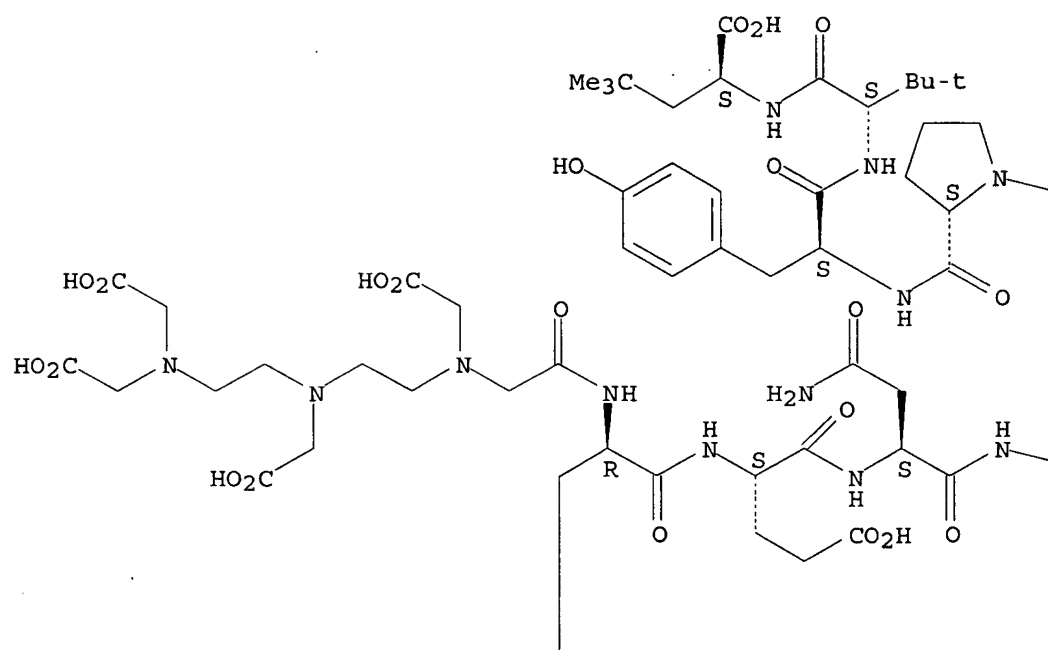


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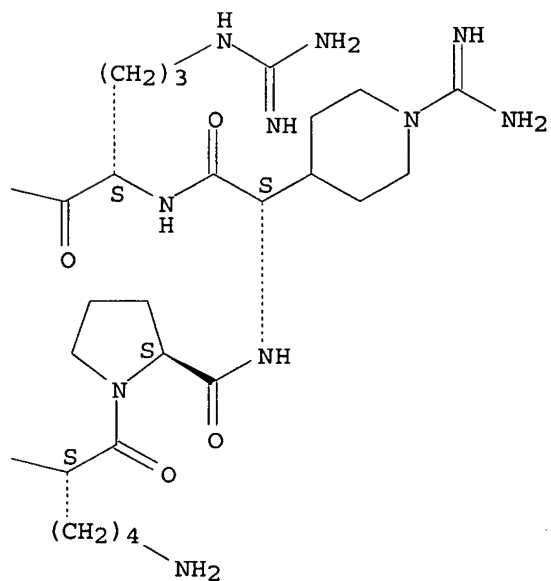
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Absolute stereochemistry.

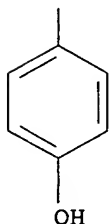
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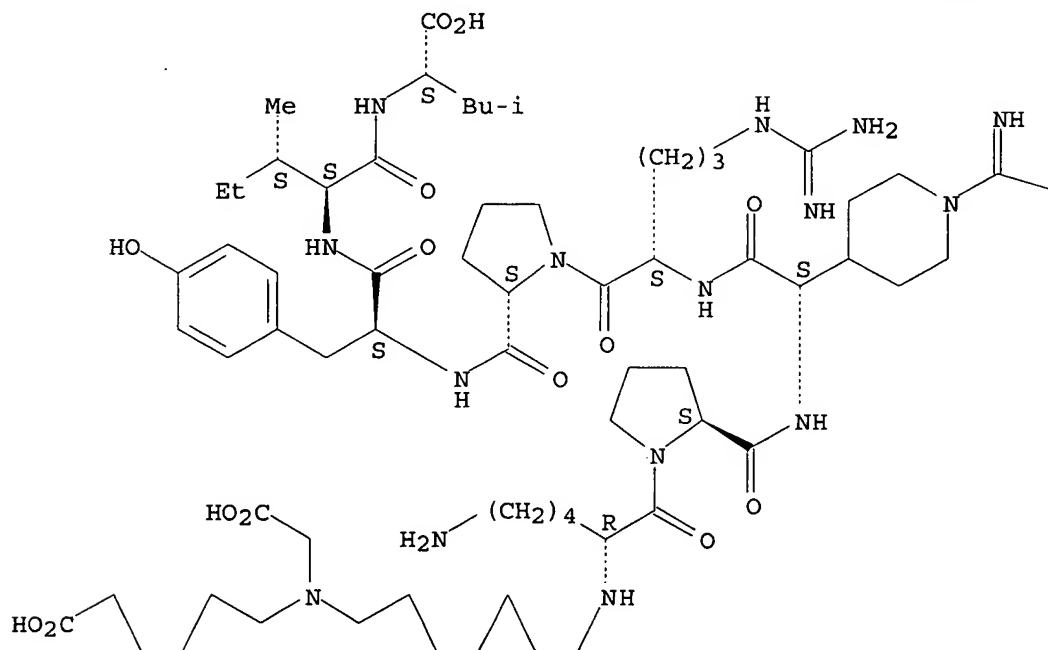
PAGE 2-A



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Absolute stereochemistry.

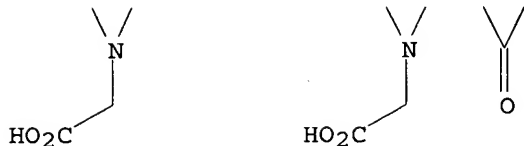
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—NH₂

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REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5
 ACCESSION NUMBER: 2000:911287 CAPLUS
 DOCUMENT NUMBER: 134:76371
 TITLE: Labeled neurotensin derivatives
 INVENTOR(S): Srinivasan, Ananthachari; Erion, Jack L.; Schmidt, Michelle A.
 PATENT ASSIGNEE(S): Mallinckrodt Inc., USA
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078796	A2	20001228	WO 2000-US17509	20000622
WO 2000078796	A3	20010517		
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PRIORITY APPLN. INFO.:			US 1999-140913P } US 2000-213068P } WO 2000-US17509 }	P 19990624 P 20000621 W 20000622

OTHER SOURCE(S): MARPAT 134:76371

ED Entered STN: 29 Dec 2000

AB Peptide analogs of neurotensin containing Arg mimics were synthesized which are resistant to enzymic degradation and which retain high binding affinity for neurotensin receptors. Best results in terms of serum stability are obtained by replacing the Arg8 with (4-Glu)Phe or (N-amidinopiperidinyl)glycine as the arginine surrogate. Another source of instability is the C-terminus with the Ile-Leu-OH being metabolized. Replacement of the C-terminus with a bulkier side chain stabilizes the bond from degradation Replacement of Ile with tBuGly results in no loss of binding affinity. Radiolabeled pharmaceutical compns. of these compds. are useful for diagnosis and therapy of tumors containing neurotensin receptors.

IT 314270-07-0 314270-07-0D, indium-111 complex
 314270-09-2 314270-09-2D, indium-111 complex
 314270-11-6 314270-11-6D, indium-111 complex
 314270-13-8 314270-14-9 314270-18-3
 314270-20-7 314270-24-1 314270-32-1
 314270-32-1D, indium-111 complex 314270-34-3
 314270-34-3D, indium-111 complex 314270-38-7
 314270-43-4 314270-46-7 314270-47-8
 314270-48-9 314270-49-0 314270-50-3
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RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

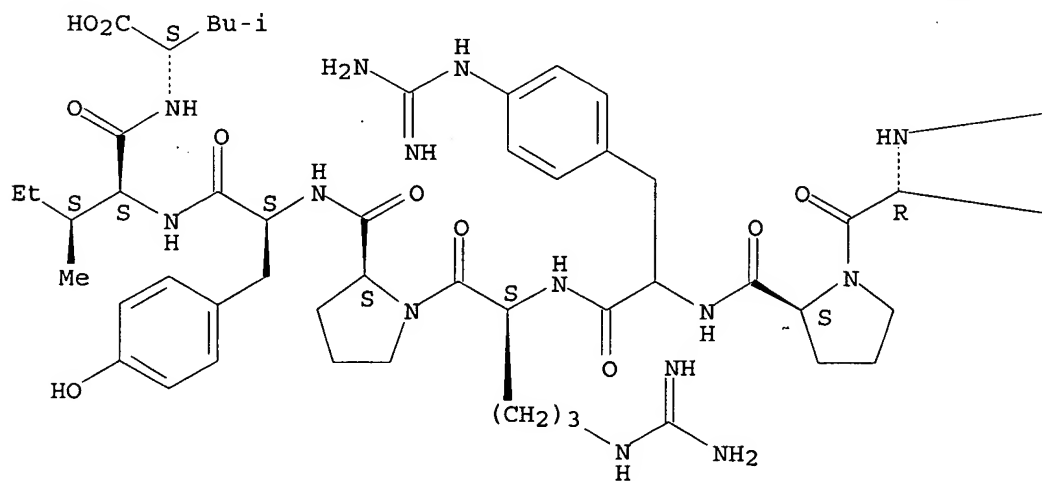
(neurotensin analogs with increased serum and urine stability and receptor binding affinity)

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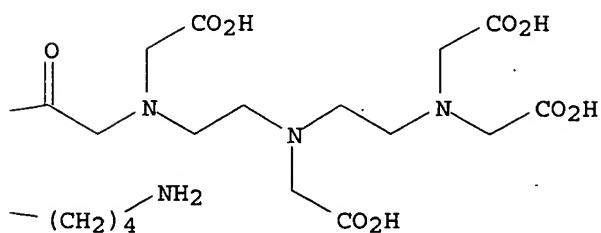
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Absolute stereochemistry.

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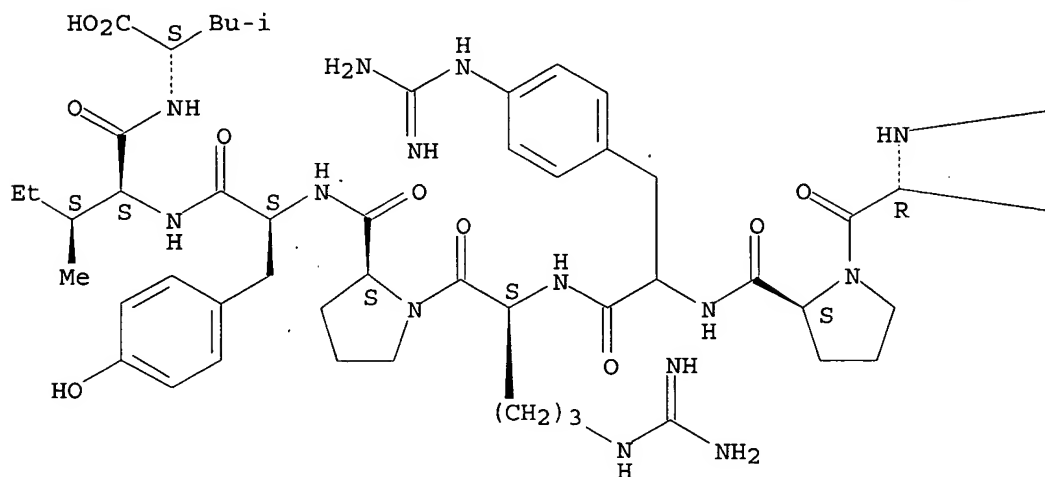
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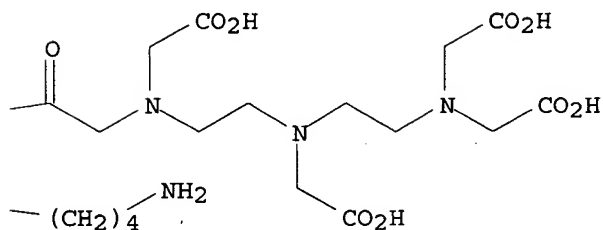
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Absolute stereochemistry.

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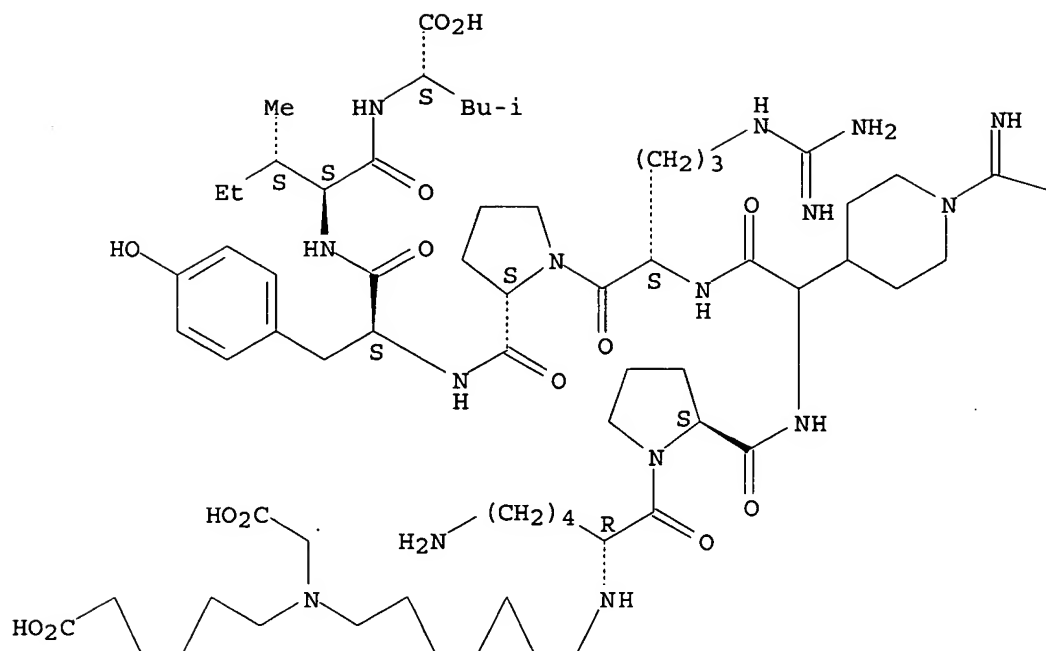
PAGE 1-B



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Absolute stereochemistry.

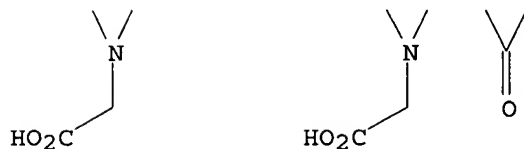
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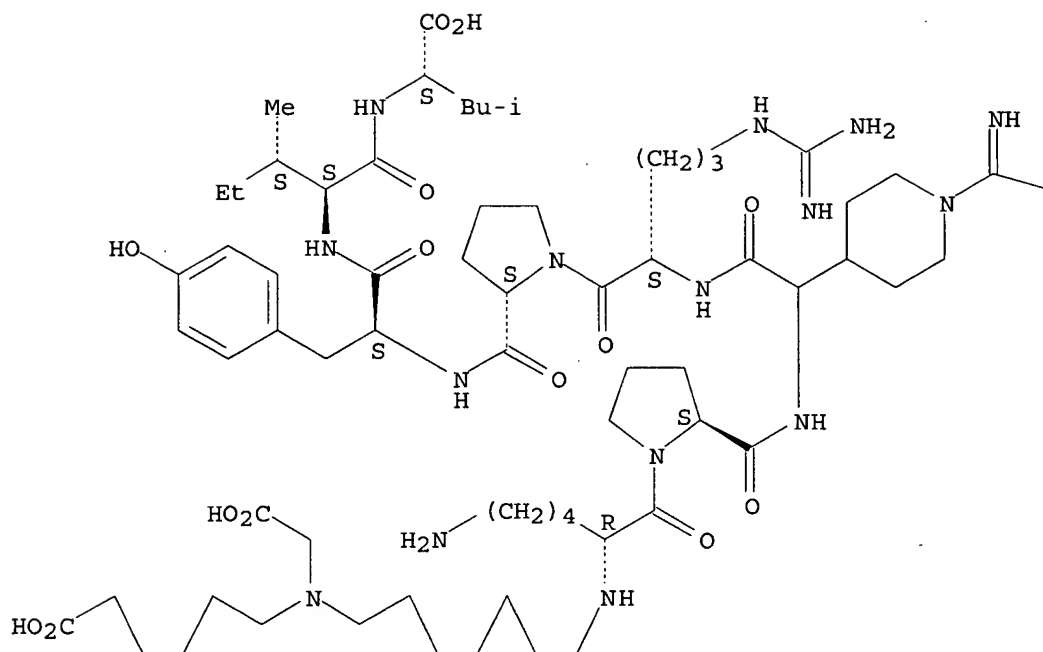
PAGE 2-A



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Absolute stereochemistry.

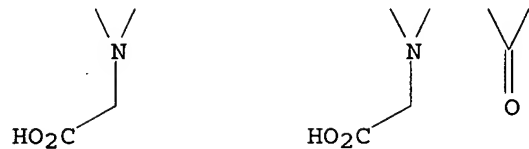
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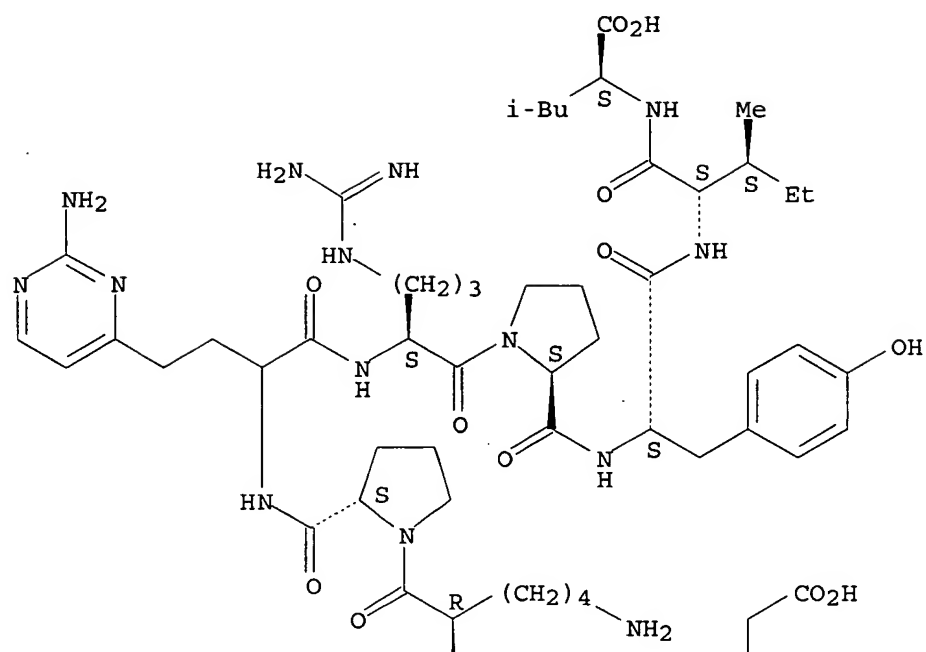
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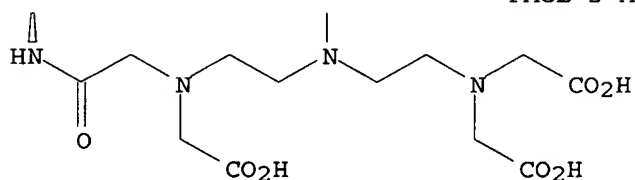
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Absolute stereochemistry.

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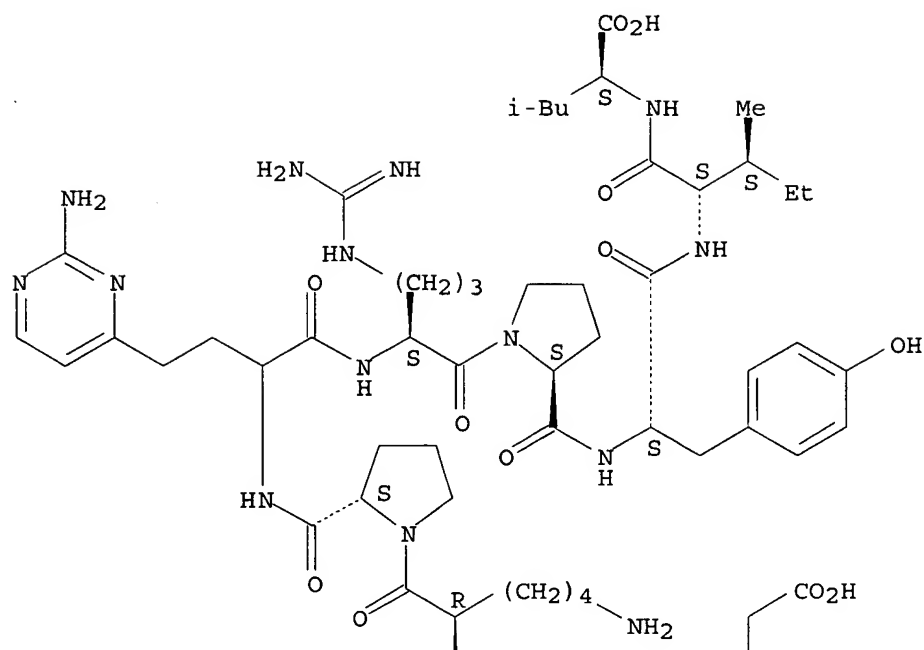


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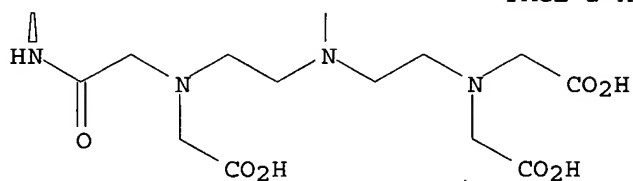
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Absolute stereochemistry.

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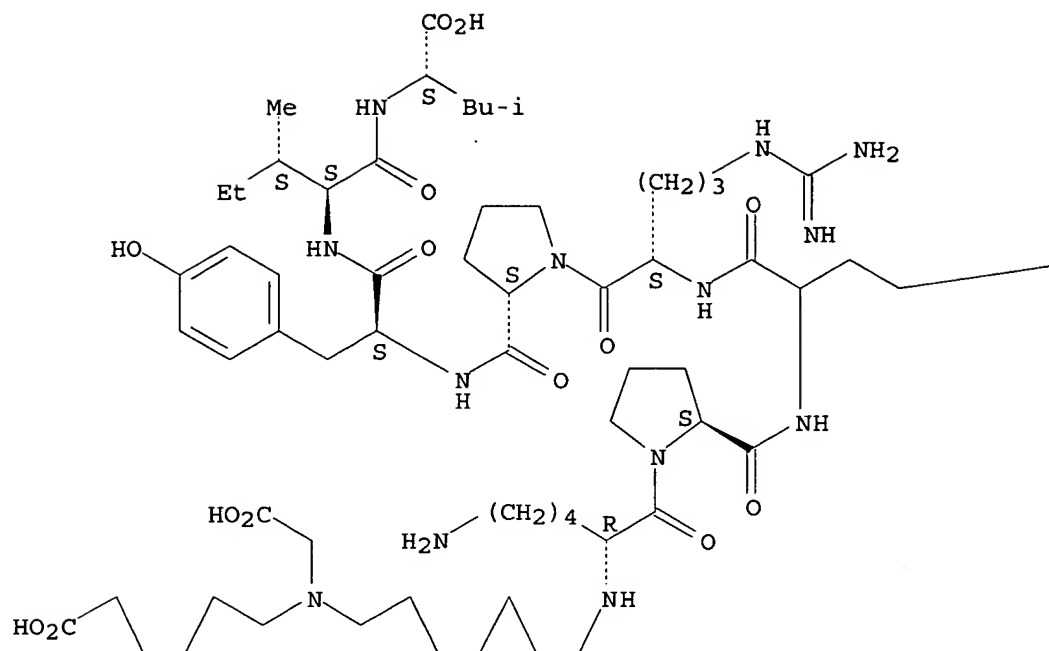


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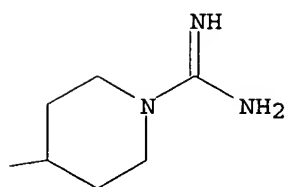
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Absolute stereochemistry.

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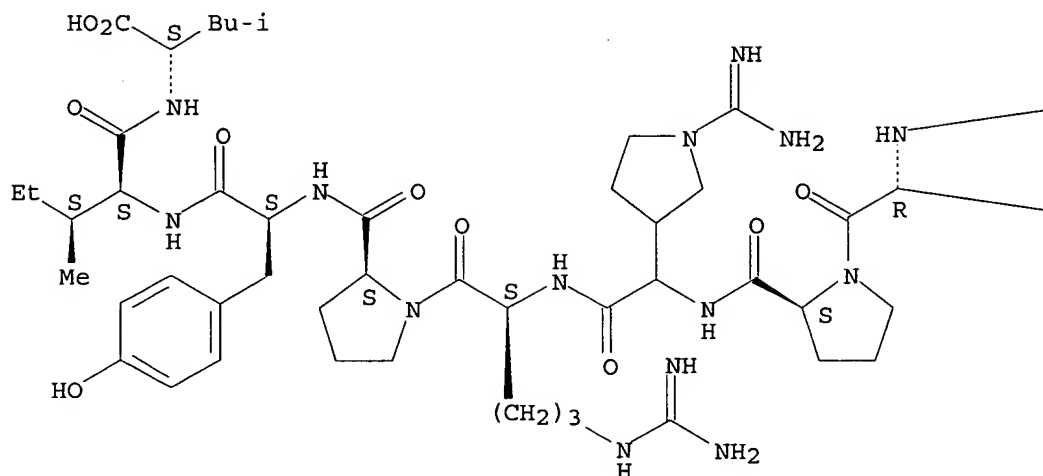
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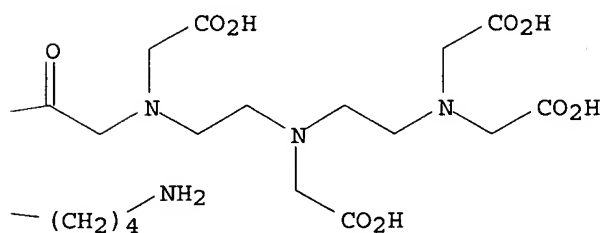
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Absolute stereochemistry.

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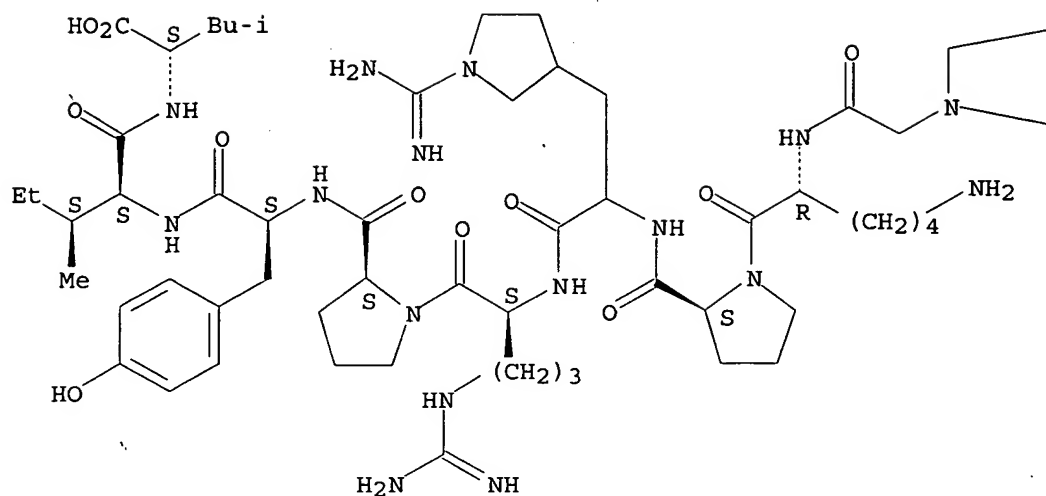


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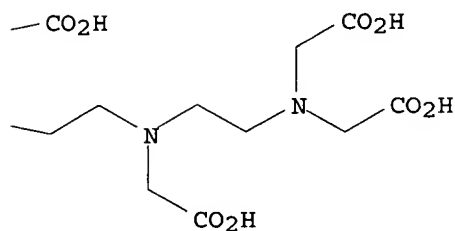
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Absolute stereochemistry.

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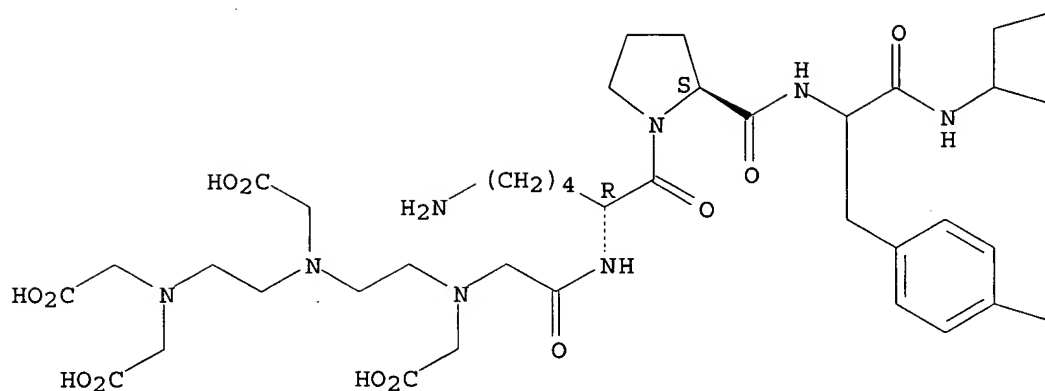


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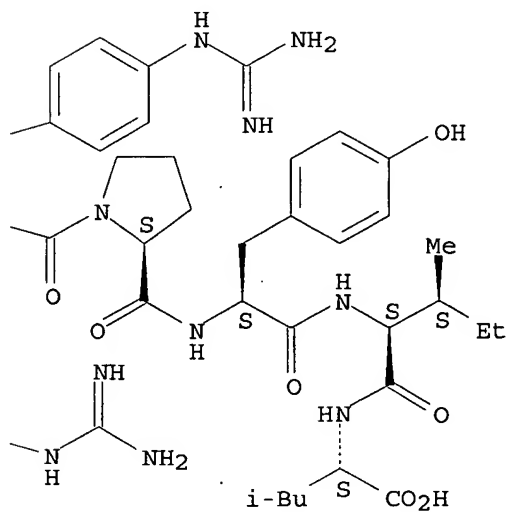
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Absolute stereochemistry.

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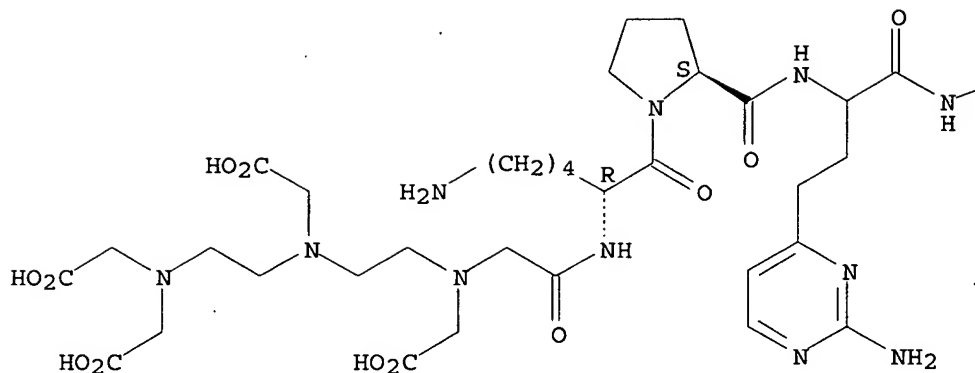
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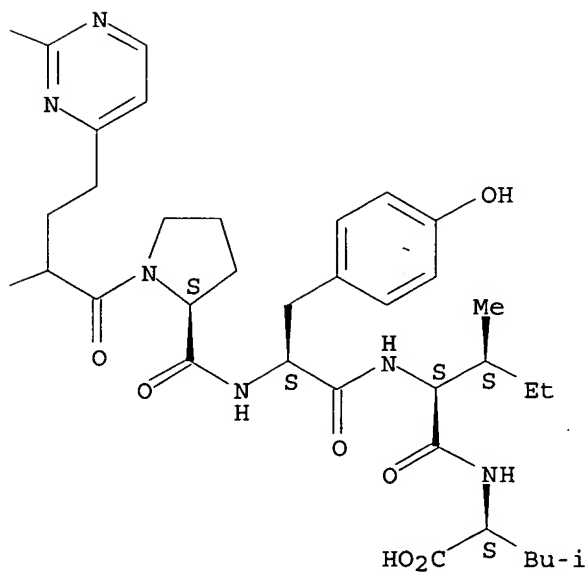
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Absolute stereochemistry.

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H₂N

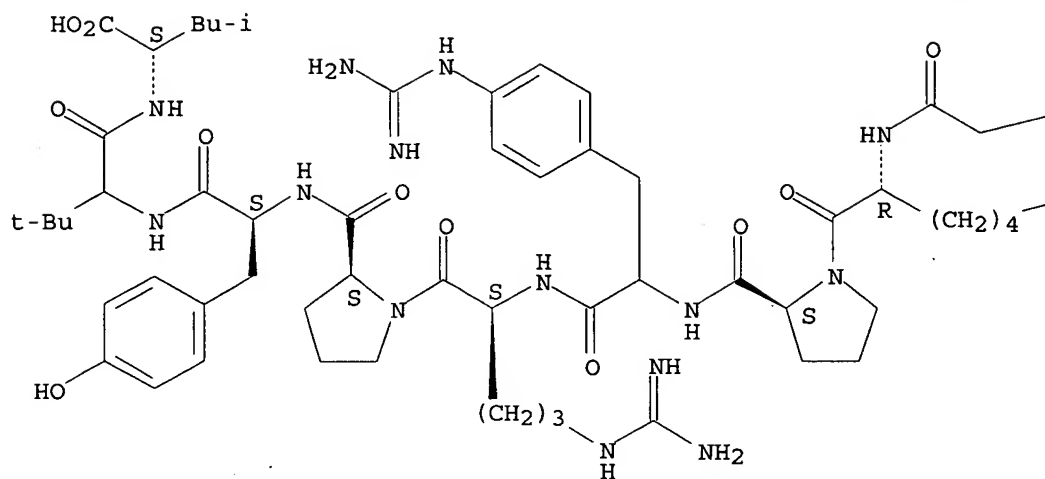
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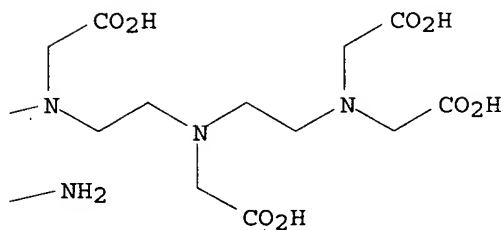
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Absolute stereochemistry.

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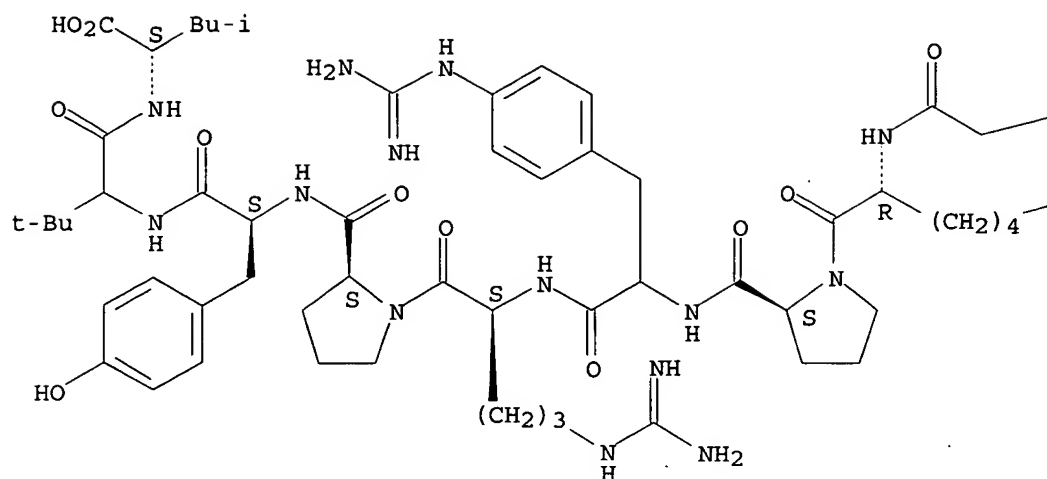
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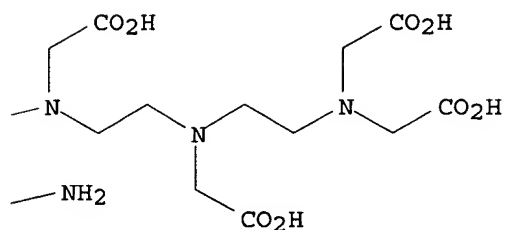
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Absolute stereochemistry.

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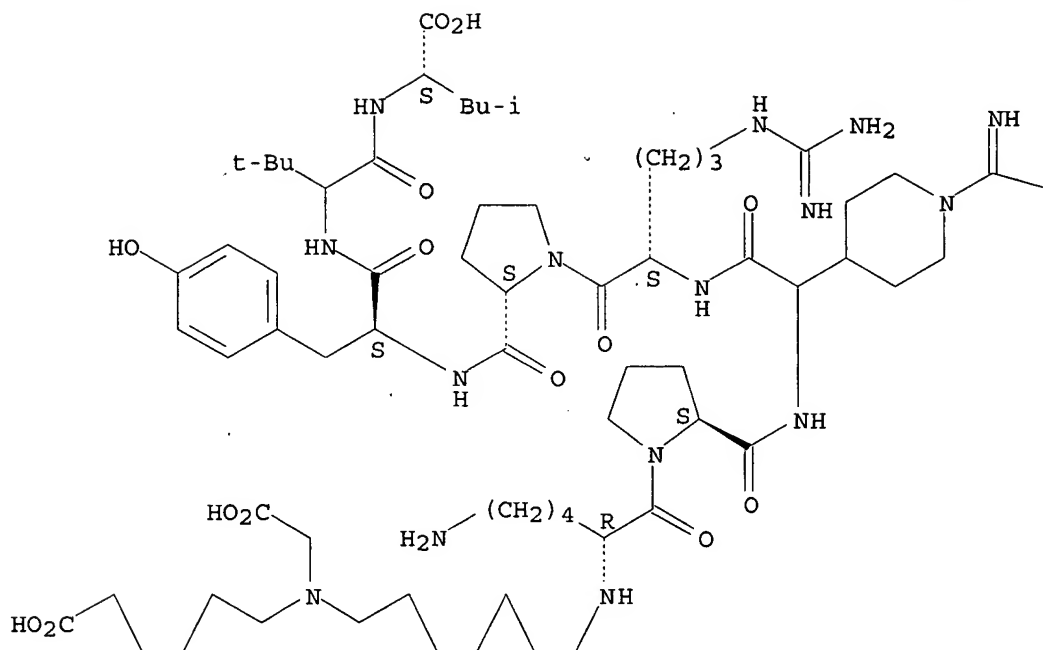


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Absolute stereochemistry.

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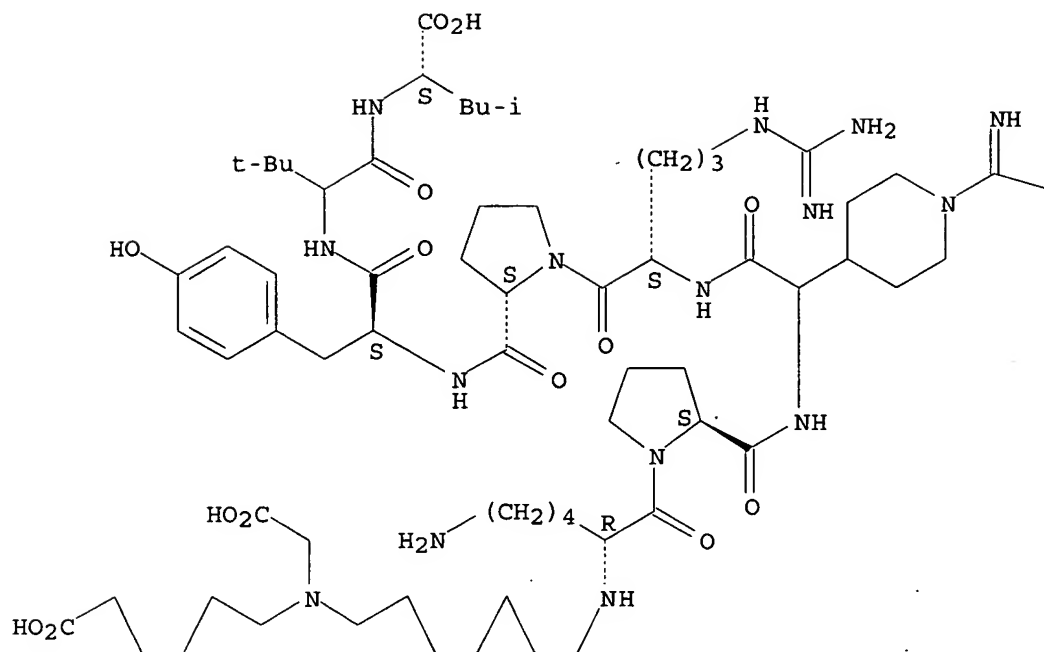
PAGE 2-A



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Absolute stereochemistry.

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—NH₂

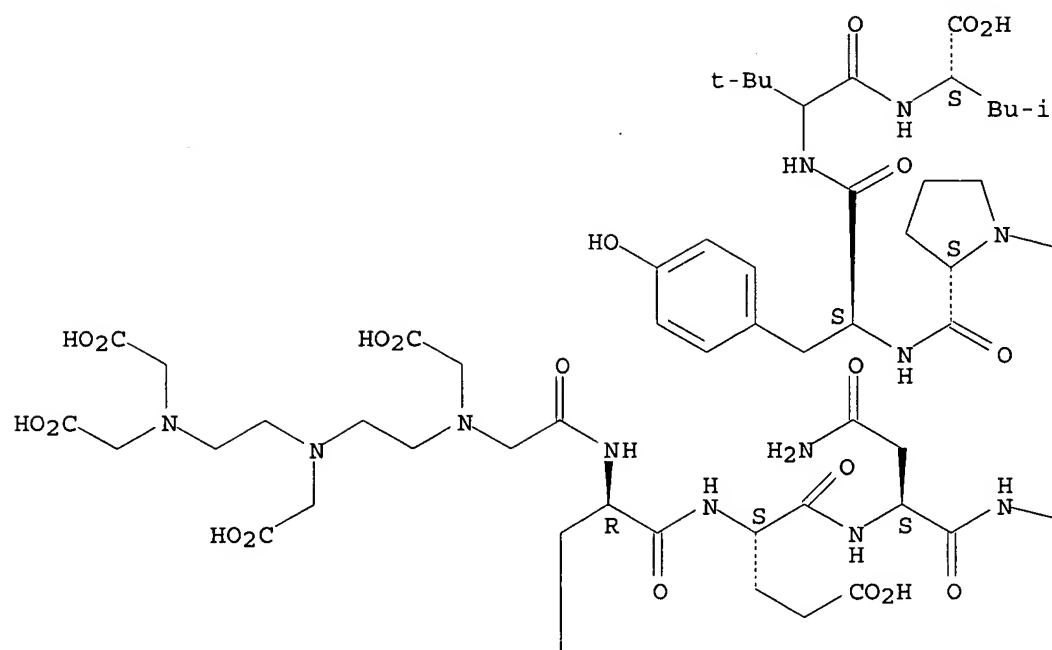
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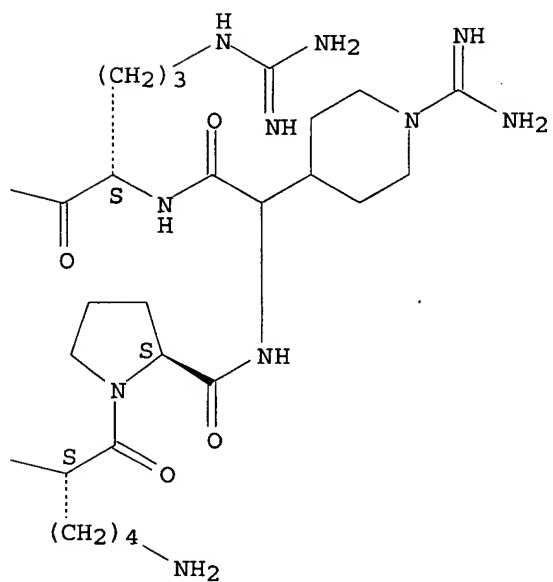
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Absolute stereochemistry.

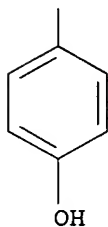
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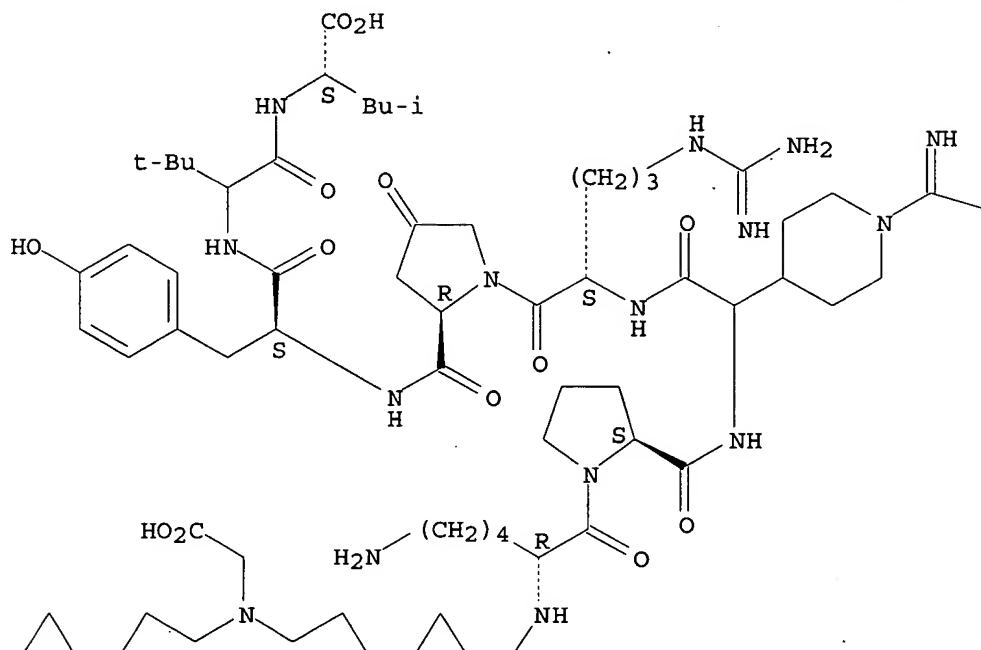
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 (CA INDEX NAME)

Absolute stereochemistry.

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NH₂

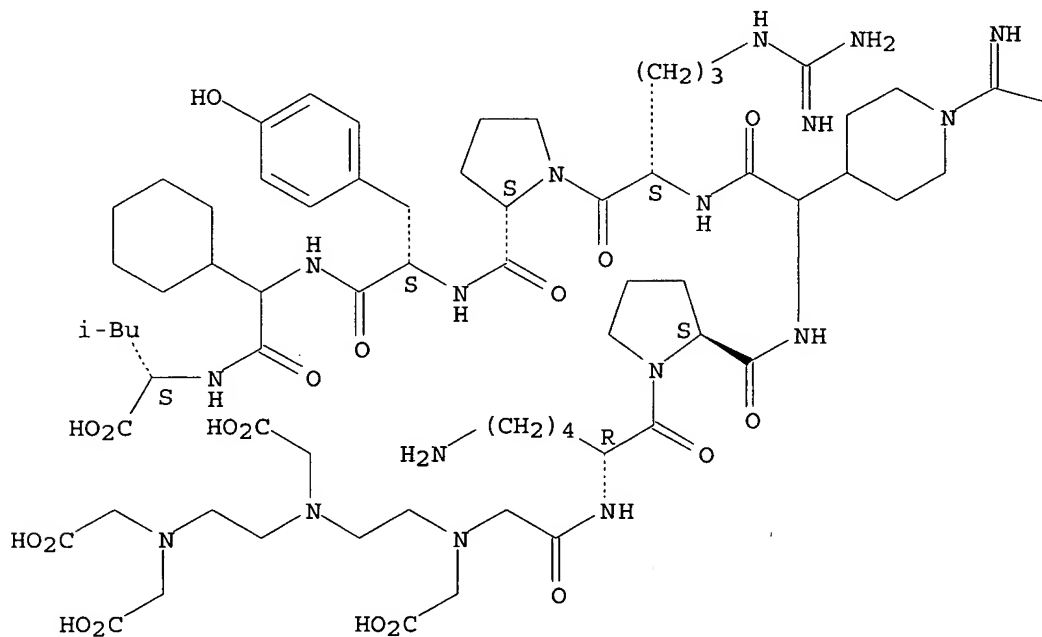
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 (CA INDEX NAME)

Absolute stereochemistry.

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RN 314270-47-8 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-B



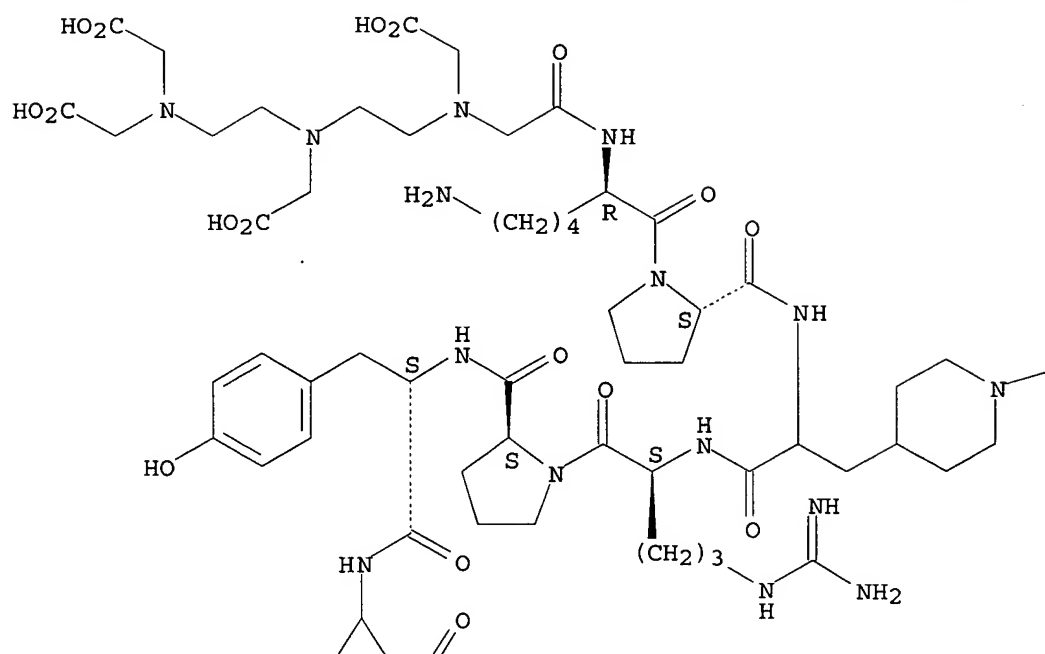
PAGE 2-A



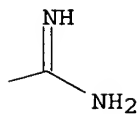
RN 314270-48-9 CAPLUS
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-3-[1-(aminoiminomethyl)-4-piperidinyl]alanyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

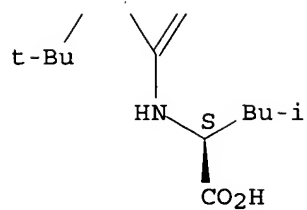
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PAGE 1-B



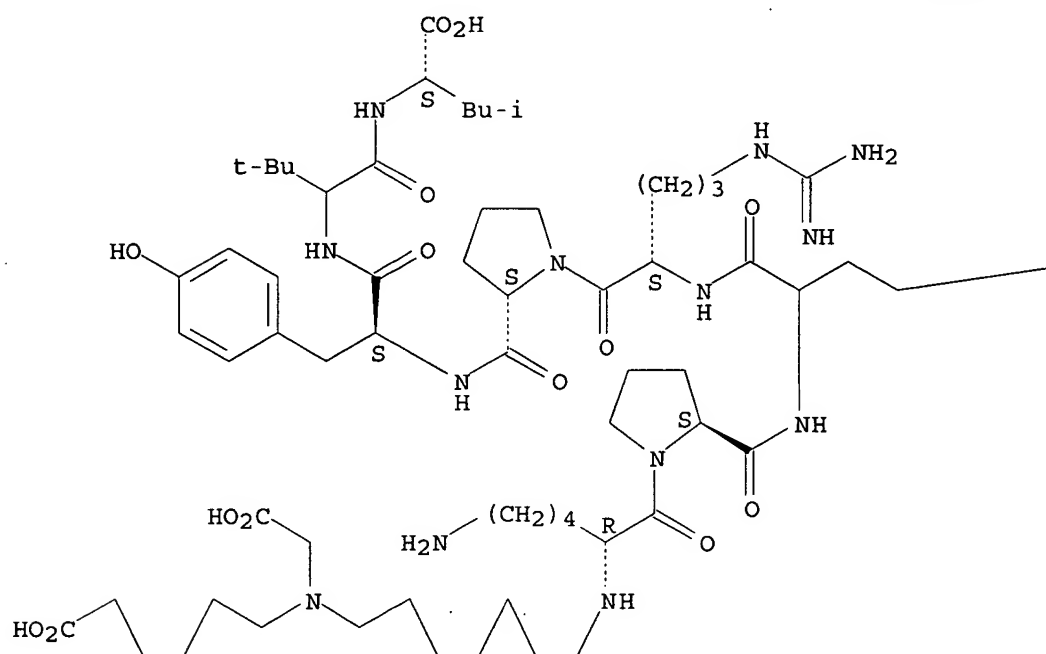
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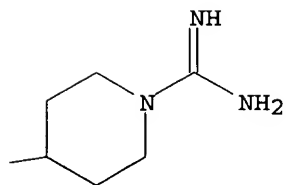
RN 314270-49-0 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl- α -amino-1-(aminoiminomethyl)-4-piperidinebutanoyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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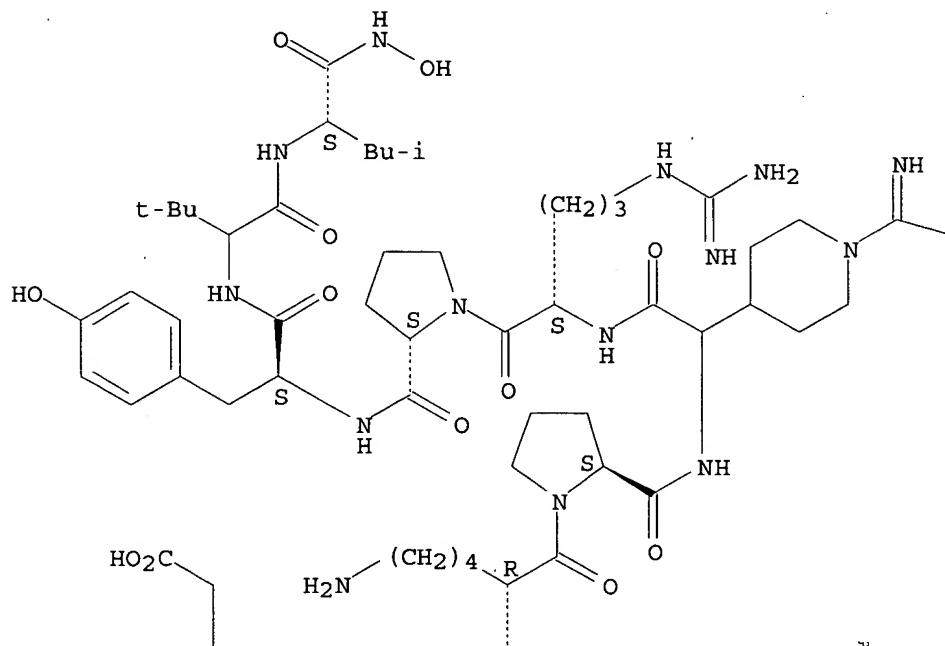


RN 314270-50-3 CAPLUS

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Absolute stereochemistry.

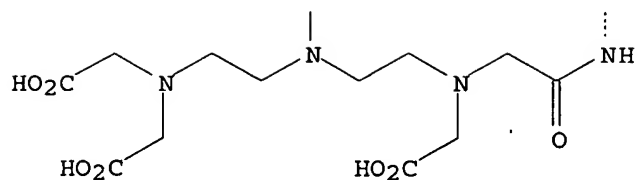
PAGE 1-A



PAGE 1-B

-NH₂

PAGE 2-A

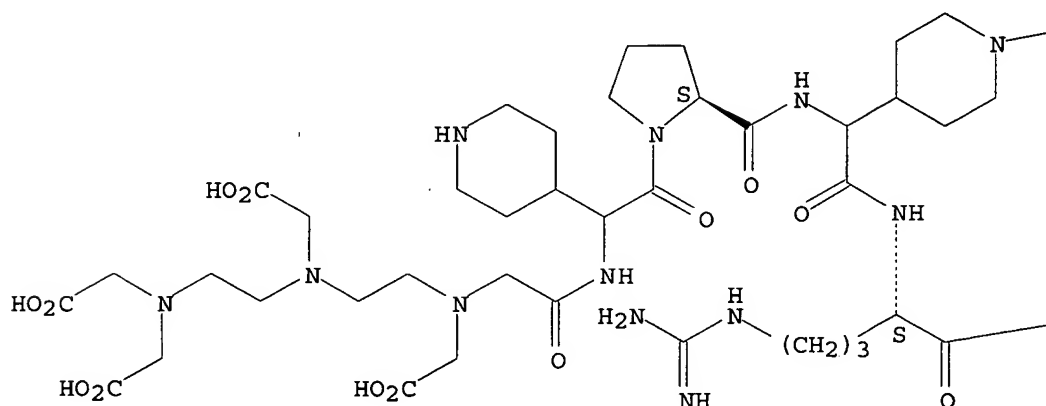


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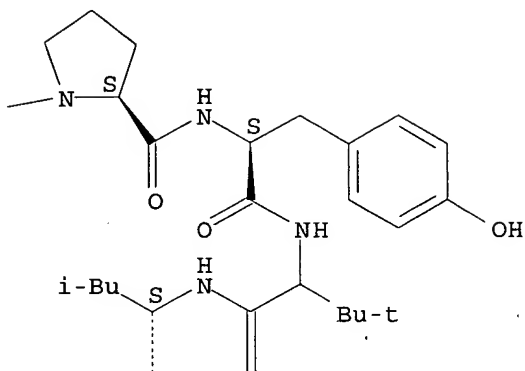
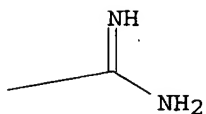
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-2-(4-piperidinyl)glycyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

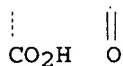
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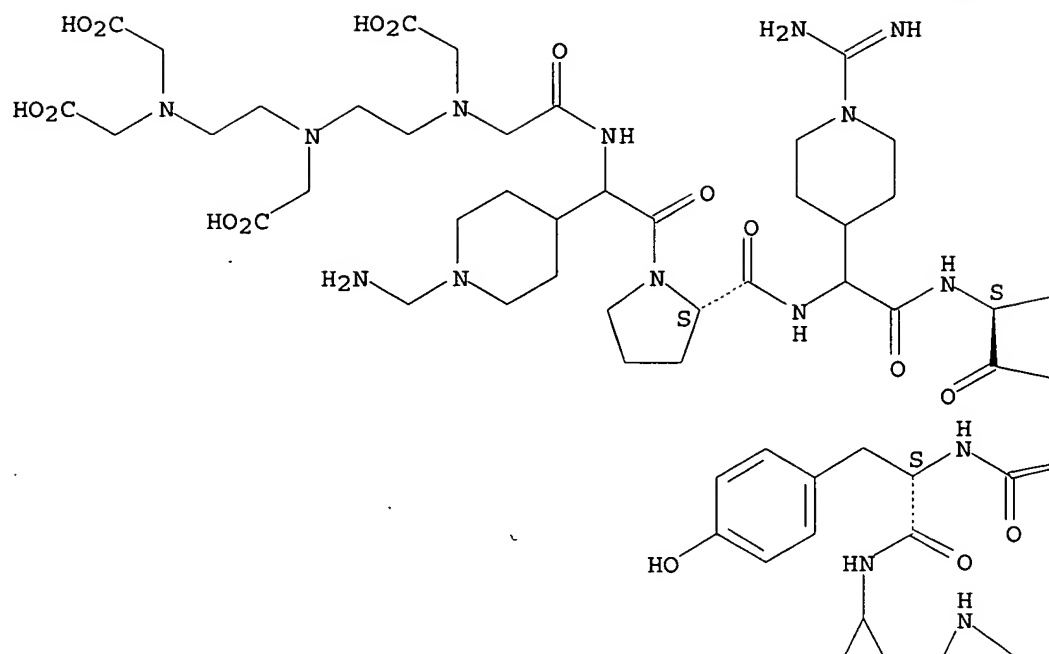
PAGE 2-B



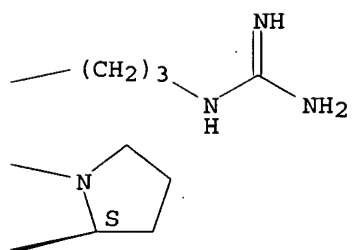
RN 314295-67-5 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-2-[1-(aminomethyl)-4-piperidinyl]glycyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

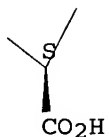
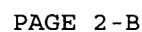
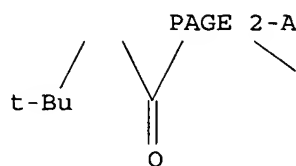
PAGE 1-A



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Bu-i

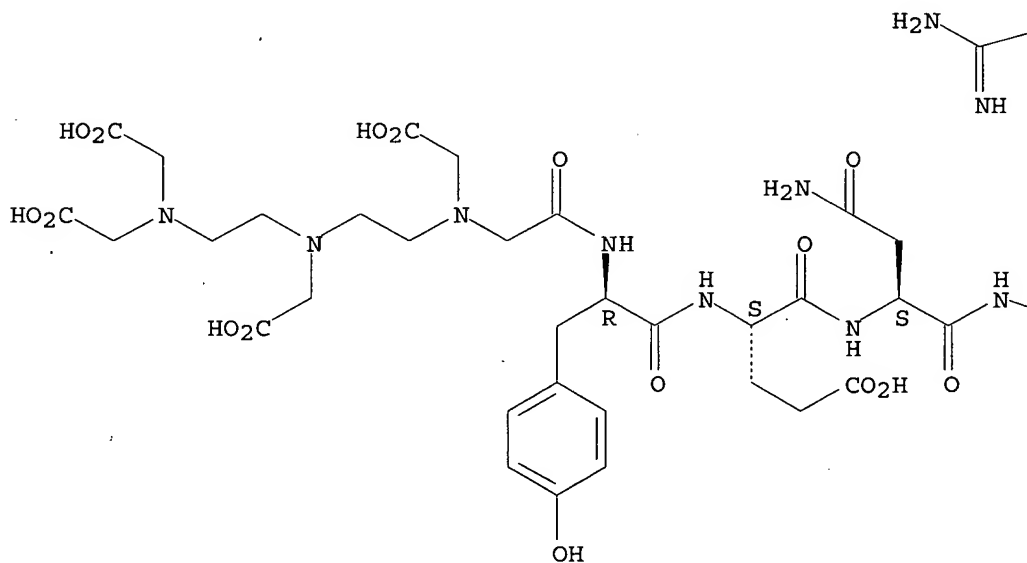


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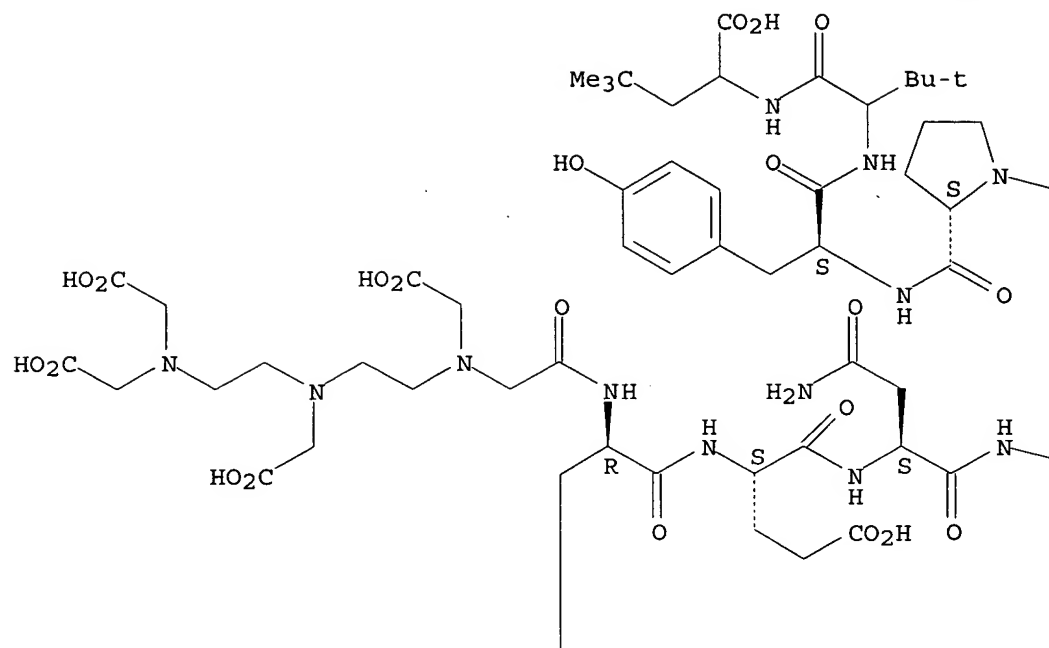
Alanine, N-[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl
1)-(carboxymethyl)glycyl-D-tyrosyl-L- α -glutamyl-L-asparaginyl-L-
lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-
prolyl-L-tyrosyl-3-methylvalyl-3-cyclohexyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

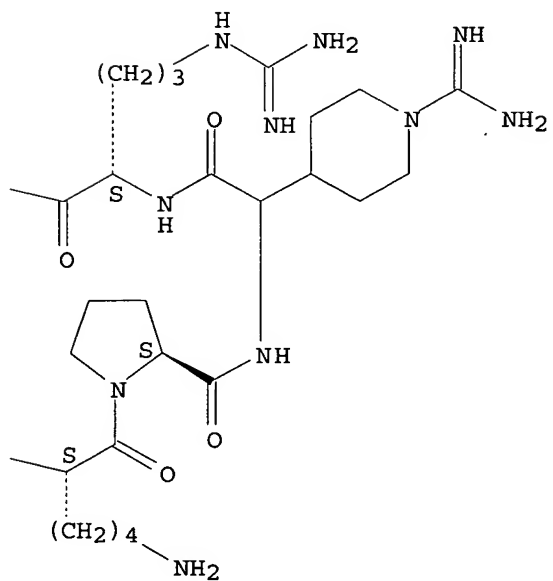
PAGE 1-A



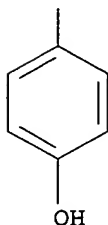
PAGE 1-A



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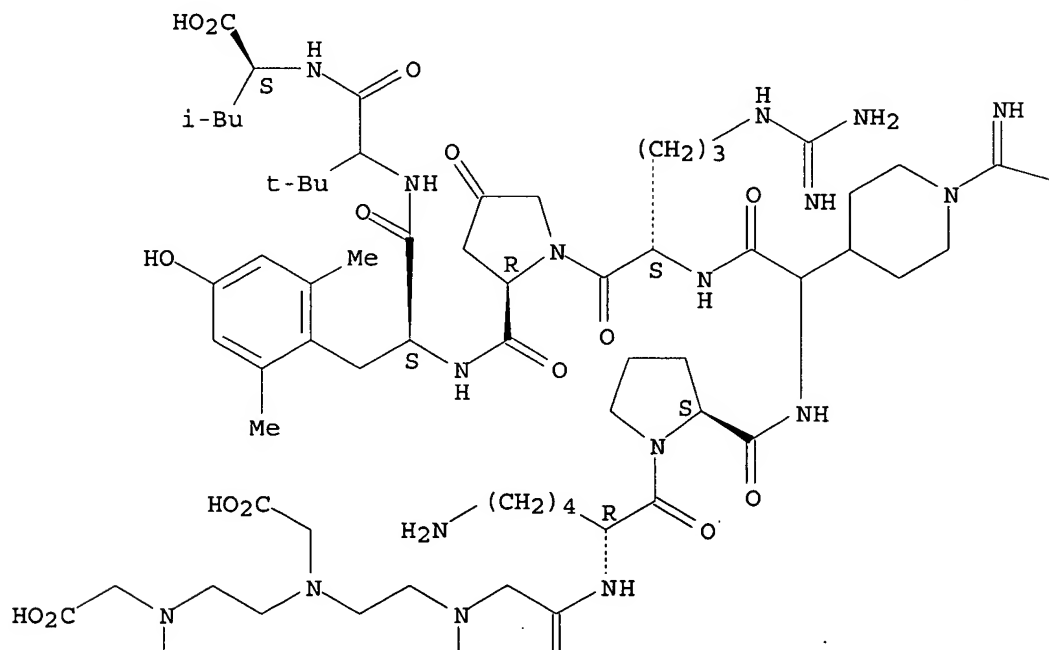
PAGE 2-A



RN 314295-70-0 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-4-oxo-D-prolyl-2,6-dimethyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

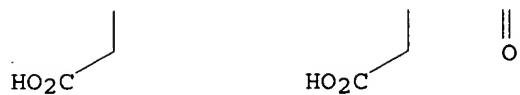
PAGE 1-A



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—NH₂

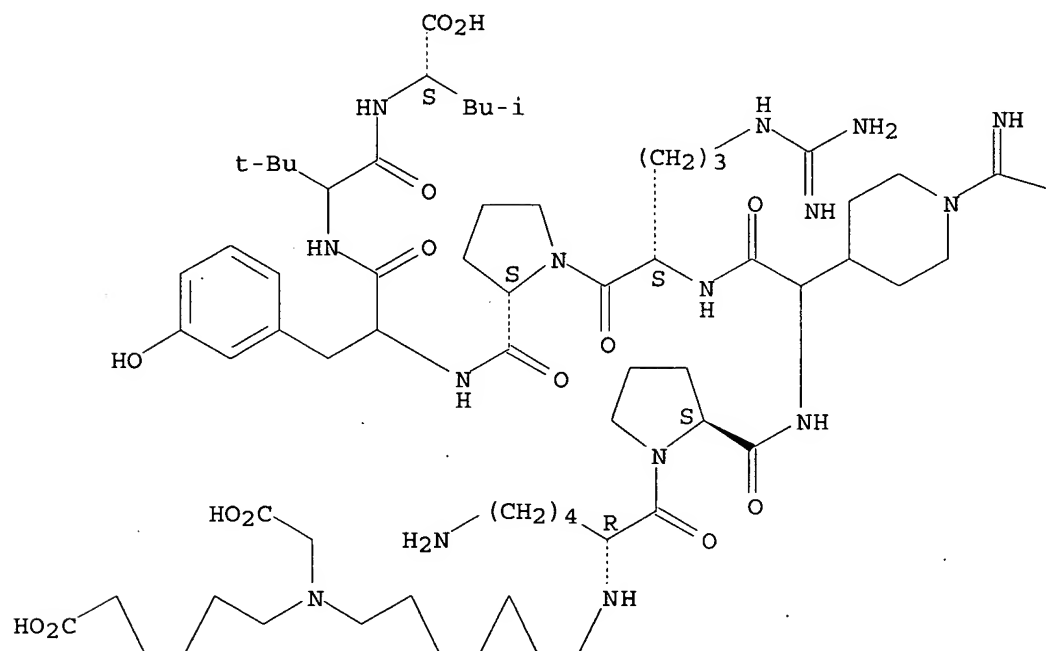
PAGE 2-A



RN 314295-71-1 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-3-hydroxyphenylalanyl-3-methylvalyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

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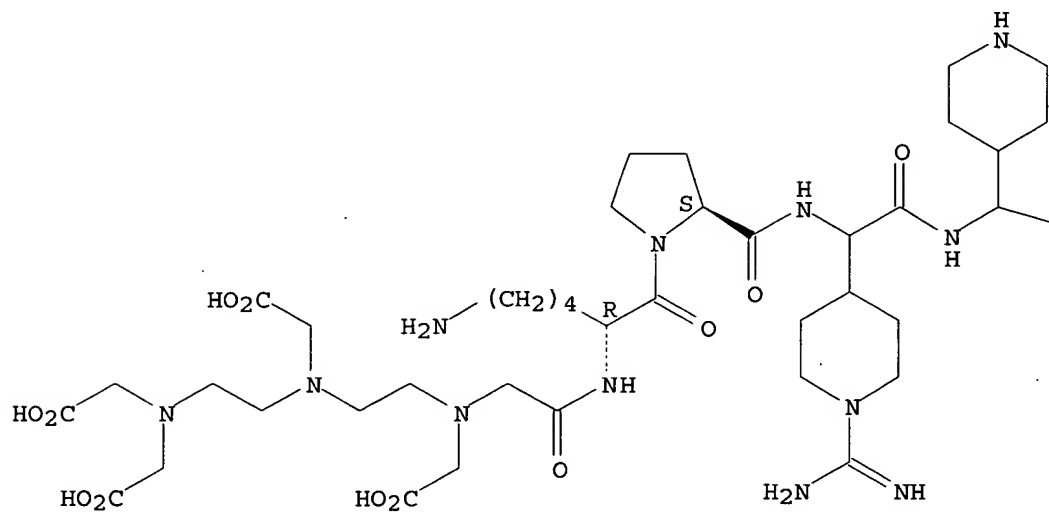
PAGE 2-A



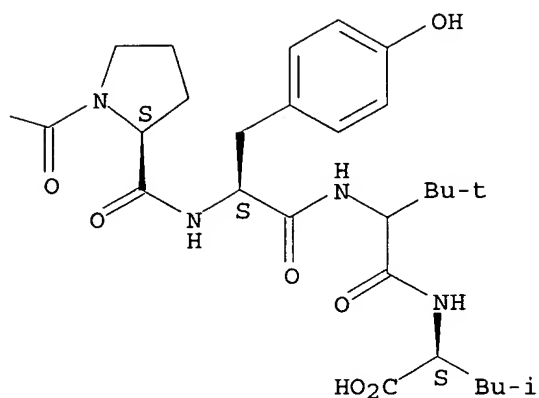
RN 314295-72-2 CAPLUS
CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-2-(4-piperidinyl)glycyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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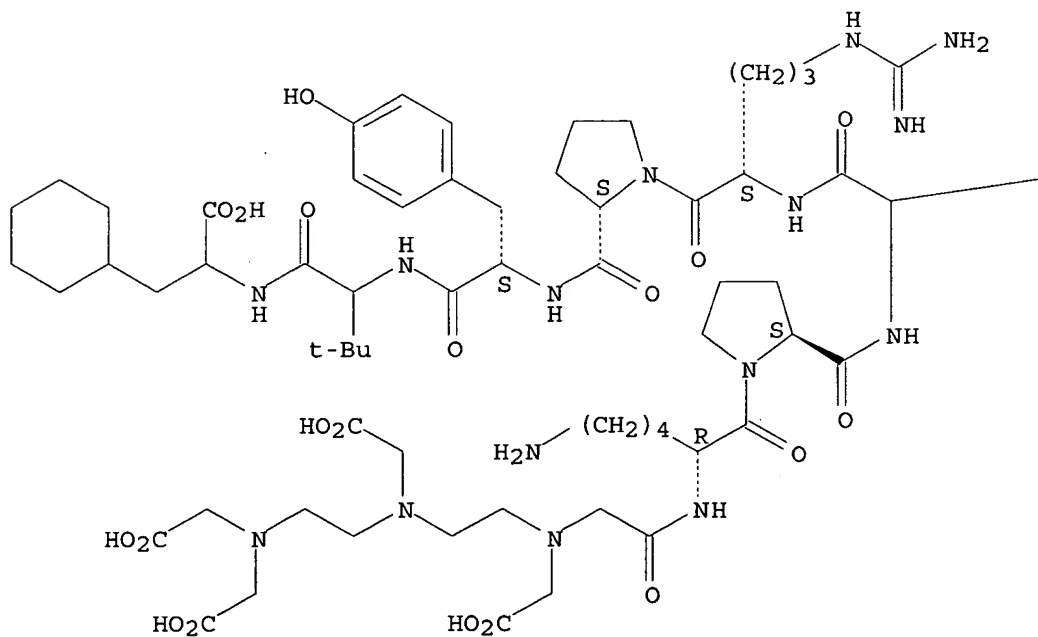


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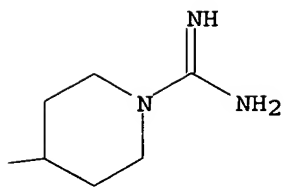
CN Alanine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl
 1]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-
 piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl-3-cyclohexyl-
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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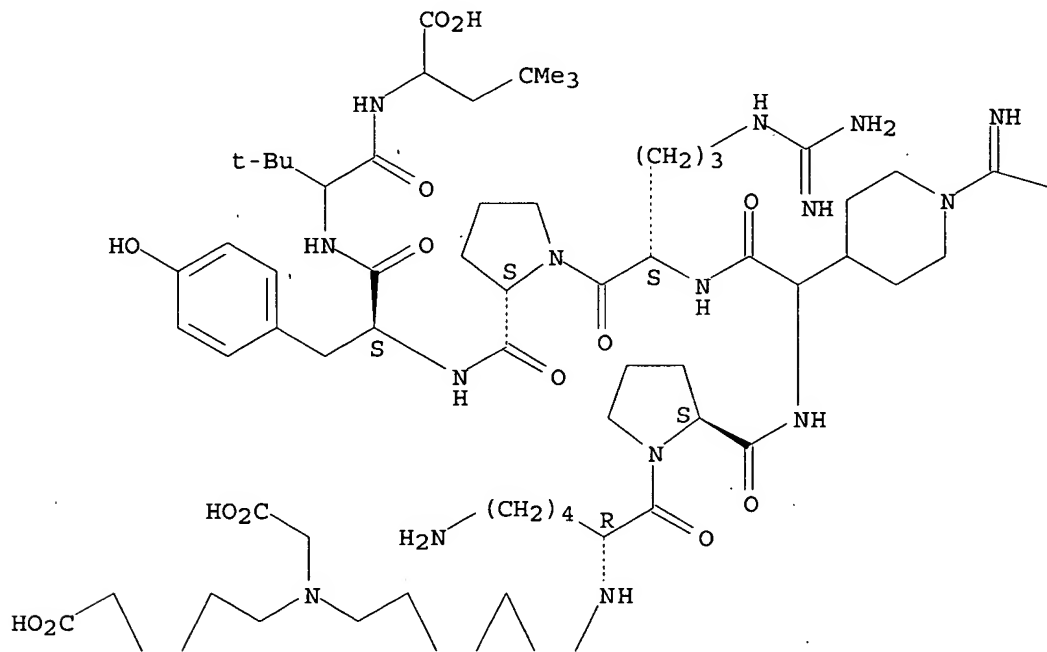


RN 314295-75-5 CAPLUS

CN Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-D-lysyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl-4-methyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

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—NH₂

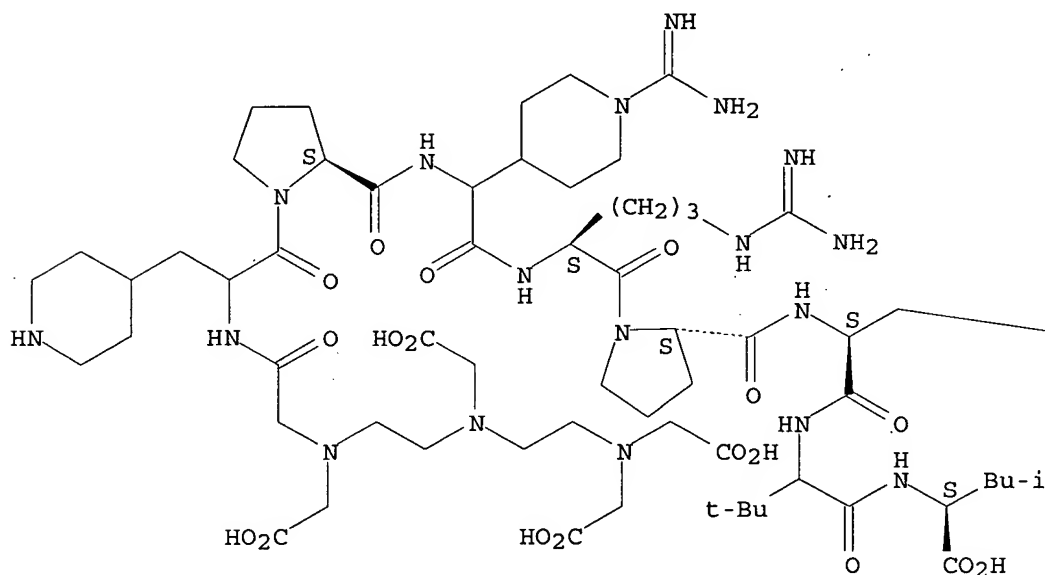
PAGE 2-A



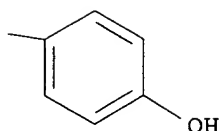
RN 314295-76-6 CAPLUS
 CN L-Leucine, N-[2-[[2-[bis(carboxymethyl)amino]ethyl](carboxymethyl)amino]ethyl]-N-(carboxymethyl)glycyl-3-(4-piperidinyl)alanyl-L-prolyl-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methylvalyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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L45 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:575856 CAPLUS

DOCUMENT NUMBER: 141:12065

TITLE: Stabilised ^{111}In -labelled DTPA- and DOTA-conjugated neurotensin analogues for imaging and therapy of exocrine pancreatic cancerAUTHOR(S): de Visser, M.; Janssen, P. J. J. M.; Srinivasan, A.; Reubi, J. C.; Waser, B.; Erion, J. L.; Schmidt, M. A.; Krenning, E. P.; de Jong, M.

CORPORATE SOURCE: Department of Nuclear Medicine, Erasmus MC, Rotterdam, 3015 GD, Neth.

SOURCE: European Journal of Nuclear Medicine and Molecular Imaging (2003), 30(8), 1134-1139
CODEN: EJNMA6; ISSN: 1619-7070

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 28 Jul 2003

AB Neurotensin (NT) receptors are overexpressed in exocrine pancreatic cancer and Ewing's sarcoma. The potential utility of native NT in cancer diagnosis and therapy is, however, limited by its rapid degradation in vivo. Therefore, NT analogs were synthesized with modified lysine and arginine derivs. to enhance stability and coupled either to DTPA, to enable high specific activity labeling with indium-111 for imaging, or to DOTA, to enable high specific activity labeling with β -emitting radionuclides, such as lutetium-177 and yttrium-90. Based on serum stability (4 h incubation at 37°C in human serum) and receptor binding affinity, the five most promising analogs were selected and further evaluated in in vitro internalization studies in human colorectal adenocarcinoma HT29 cells, which overexpress NT receptors. All five NT analogs bound with high affinity to NT receptors on human exocrine pancreatic tumor sections. The analogs could be labeled with ^{111}In to a high specific activity. The ^{111}In -labeled compds. were found to be very stable in serum. Incubation of HT29 cells with the ^{111}In -labeled analogs at 37°C showed rapid receptor-mediated uptake and internalization. The most promising analog, peptide 2530 [DTPA-(Pip)Gly-Pro-(PipAm)Gly-Arg-Pro-Tyr-tBuGly-Leu-OH] was further tested in vivo in a biodistribution study using HT29 tumor-bearing nude mice. The results of this study showed low percentages of injected dose per g tissue of this ^{111}In -labeled 2530 analog in receptor-neg.

organs like blood, spleen, pancreas, liver, muscle and femur. Good uptake was found in the receptor-pos. HT29 tumor and high uptake was present in the kidneys. Co-injection of excess unlabeled NT significantly reduced tumor uptake, showing that tumor uptake is a receptor-mediated process. With their enhanced stability, maintained high receptor affinity and rapid receptor-mediated internalization, the ^{111}In -labeled DTPA- and DOTA-conjugated NT analogs are excellent candidates for imaging and therapy of exocrine pancreatic cancer, peptide 2530 being the most promising analog.

IT 694452-76-1DP, In(111)-labeled 697236-75-2P
697236-79-6P 697236-89-8P 697236-90-1P

RL: DGN (Diagnostic use); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

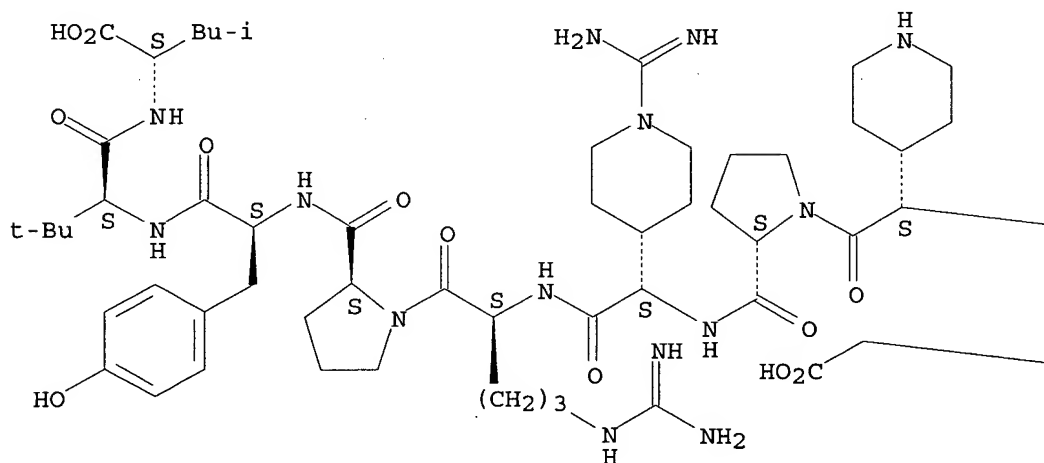
(stabilized ^{111}In -labeled DTPA- and DOTA-conjugated neurotensin analogs for imaging and therapy of exocrine pancreatic cancer)

RN 694452-76-1 CAPLUS

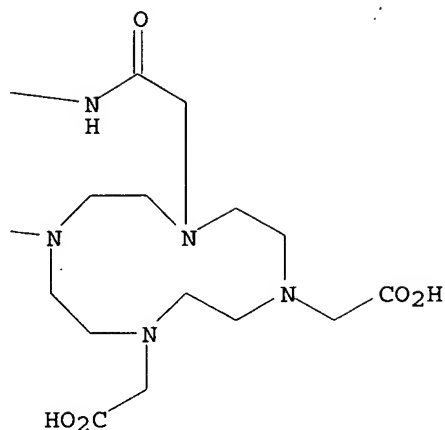
CN L-Leucine, (2S)-2-(4-piperidiny1)-N-[[4,7,10-tris(carboxymethyl)-1,4,7,10-tetraazacyclododec-1-yl]acetyl]glycyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidiny1]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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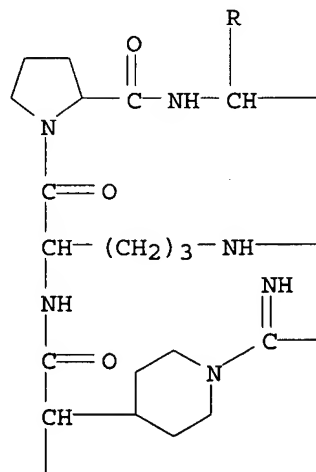
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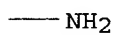
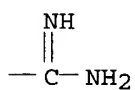
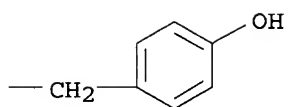
RN 697236-75-2 CAPLUS

CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-(2S)-2-(4-piperidinyl)glycyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-L-leucinato(5-)]-, dihydrogen (9CI) (CA INDEX NAME)

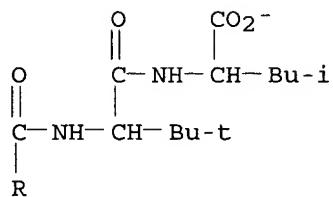
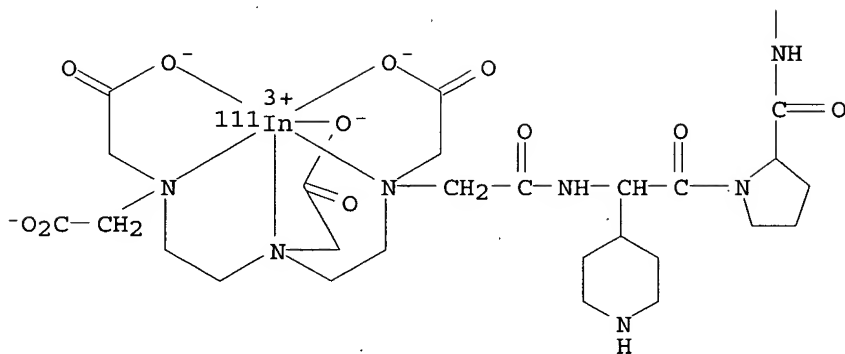
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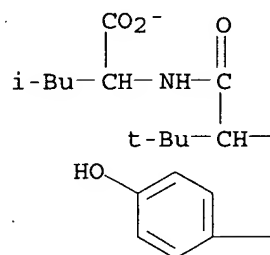


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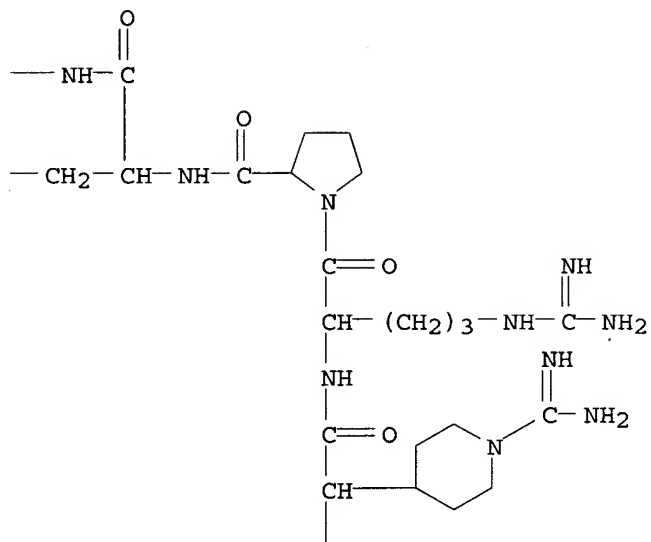
●2 H⁺

RN 697236-79-6 CAPLUS
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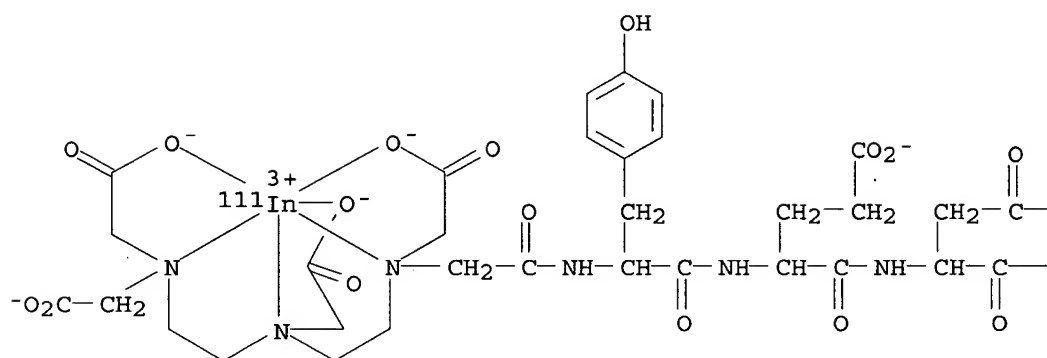
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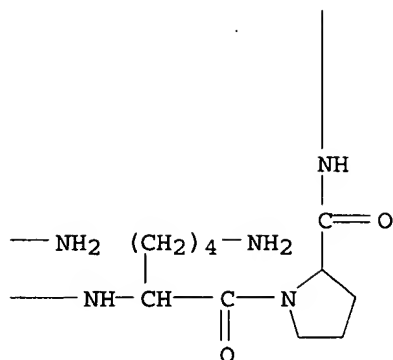
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● 3 H⁺

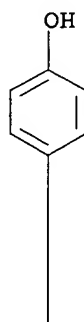
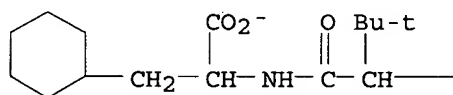
PAGE 2-B



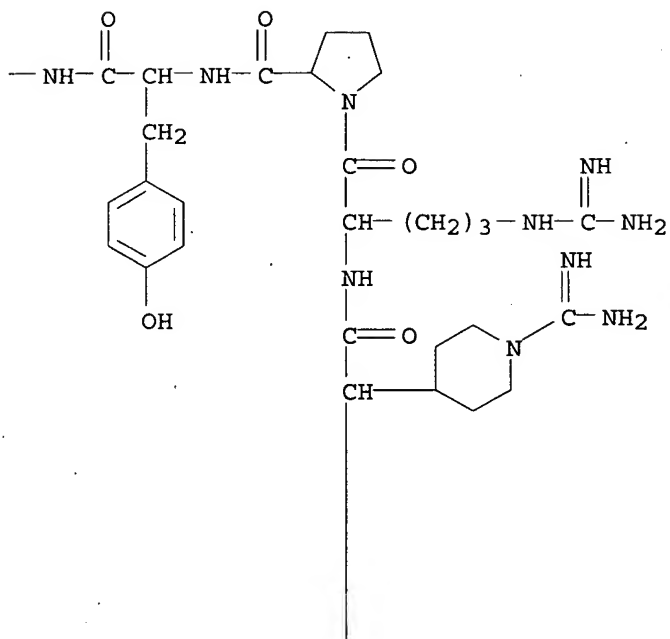
RN 697236-89-8 CAPLUS

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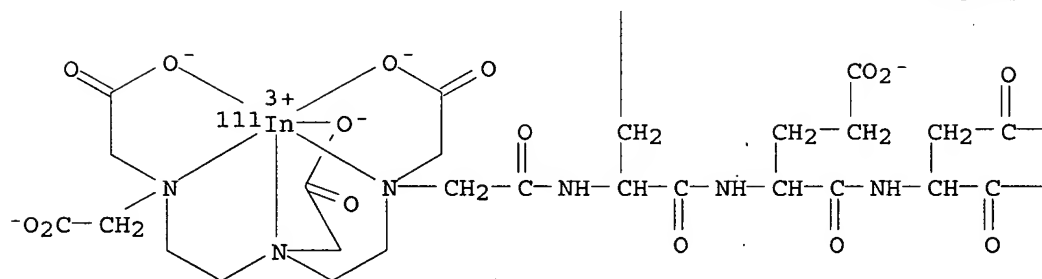
PAGE 1-A



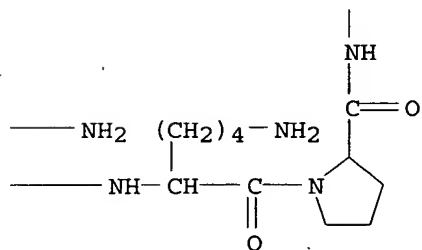
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 $\bullet_3 \text{ H}^+$

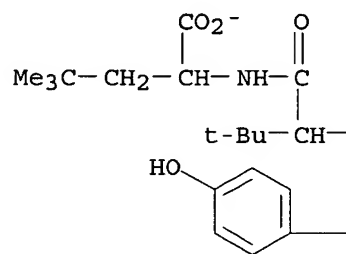
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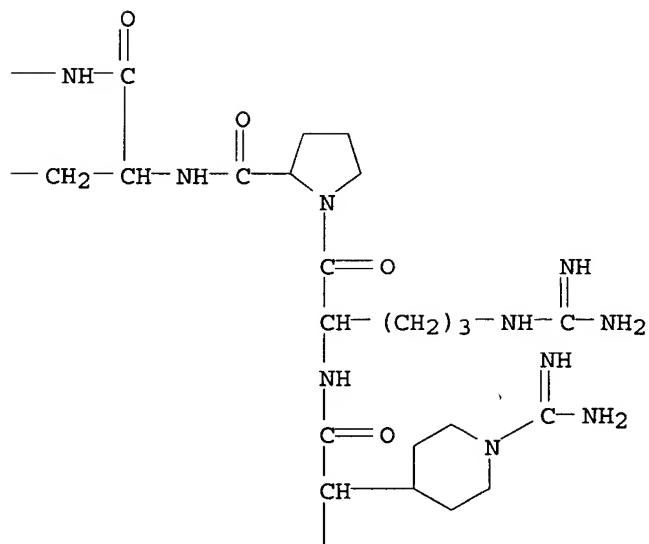
RN 697236-90-1 CAPLUS

CN Indate(3-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-tyrosyl-L-α-glutamyl-L-asparaginyl-L-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-4-methyl-L-leucinato(6-)]-, trihydrogen (9CI) (CA INDEX NAME)

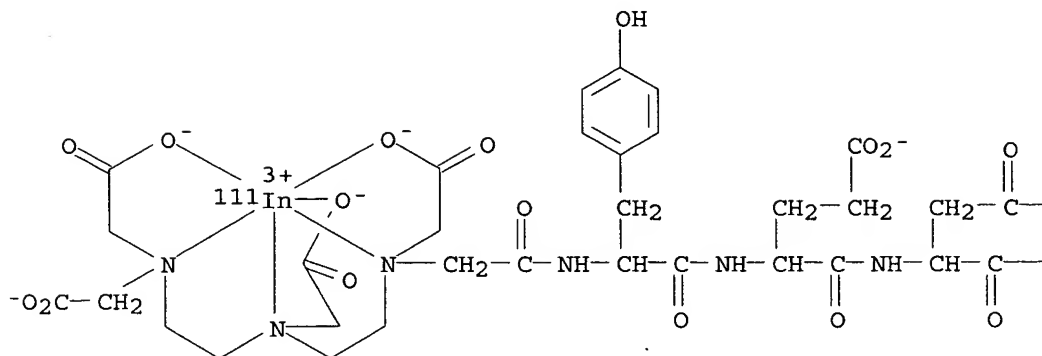
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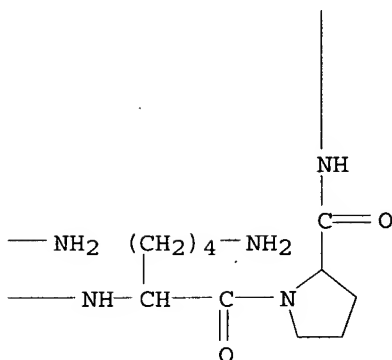
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PAGE 2-A

● 3 H⁺

PAGE 2-B



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:692681 CAPLUS

DOCUMENT NUMBER: 138:250779

TITLE: Synthesis of potent and enzymatically stable 4-18F-benzoyl-NT(8-13) analogs for tumor diagnosis using PET

AUTHOR(S): Iterbeke, K.; Bergmann, R.; Johanssen, B.; Torok, G.; Laus, G.; Tourwe, D.

CORPORATE SOURCE: Department of Organic Chemistry, Vrije Universiteit Brussel, Brussels, B-1050, Belg.

SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 984-985. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.

CODEN: 69DBAL; ISBN: 0-9715560-0-8

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 13 Sep 2002

AB The analogs of the biol. part of neurotensin (NT), NT(8-13), which were developed as potential PET-tracers were prepared by solid phase peptide synthesis on a Merrifield resin using Boc main-chain protected amino acids. Radiolabeling was performed using 0.7 mg of the resp. peptide in a N-succinimidyl-4-[¹⁸F]fluorobenzoate solution on 25% CH₃CN in Koltthoff's buffer at 45° for 50 min. IC₅₀ values for the non-radioactive compds. showed that NT-1 and NT-2 have comparable IC₅₀ values as the native NT while NT-3 and NT-4 displayed a loss in binding affinity. Arterial blood samples showed very fast degradation of 4-¹⁸F-benzoyl-NT-1 and 4-¹⁸F-benzoyl-NT-2. 4-¹⁸F-benzoyl-NT-4, and to a lesser extent 4-¹⁸F-benzoyl-NT-3, showed an increased in vivo stability. Ex vivo autoradiog. on HT-29 tumor bearing mice displayed an increased tumor uptake for 4-¹⁸F-benzoyl-NT-4 making it potential candidate for use in diagnosis of NT receptor-containing carcinomas with PET.

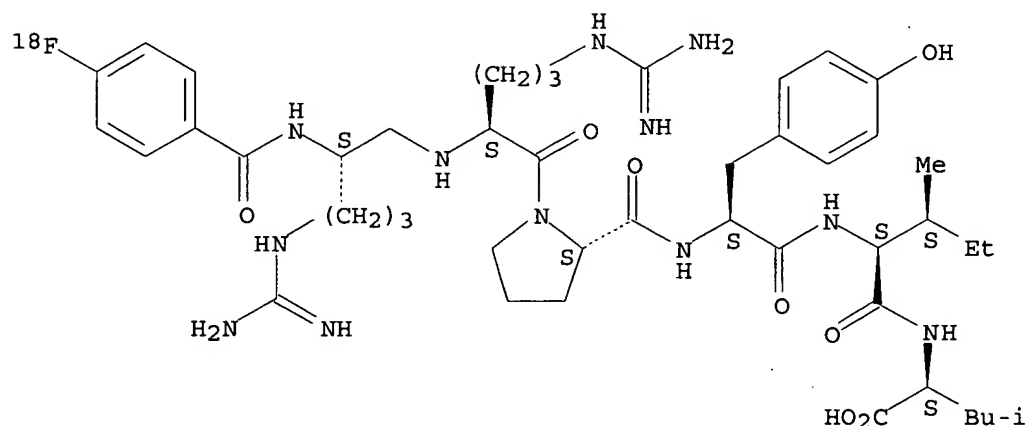
IT 266352-47-0P 406486-48-4P 502923-55-9P
502923-56-0P

RL: DGN (Diagnostic use); PKT (Pharmacokinetics); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(potent and metabolically stable 4-¹⁸F-benzoyl-neurotensin(8-13) analogs preparation for PET tumor imaging)

RN 266352-47-0 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-¹⁸F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl- (9CI)
(CA INDEX NAME)

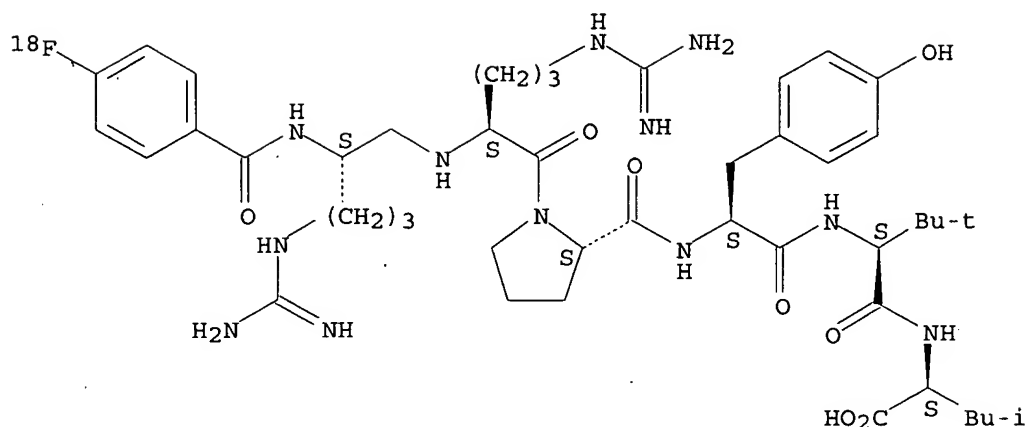
Absolute stereochemistry.



RN 406486-48-4 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-¹⁸F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

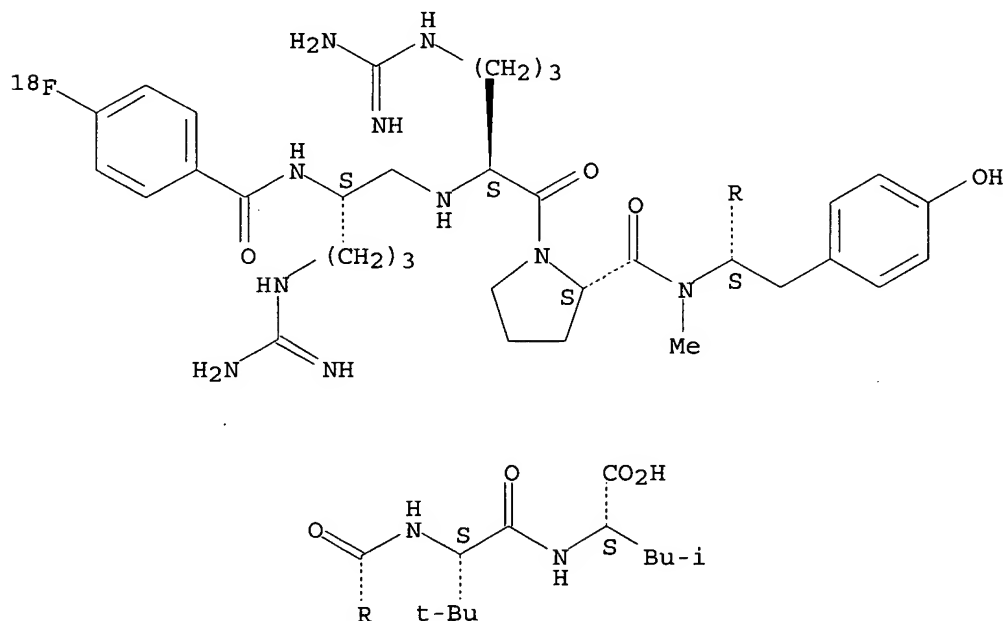
Absolute stereochemistry.



RN 502923-55-9 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-N-methyl-L-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

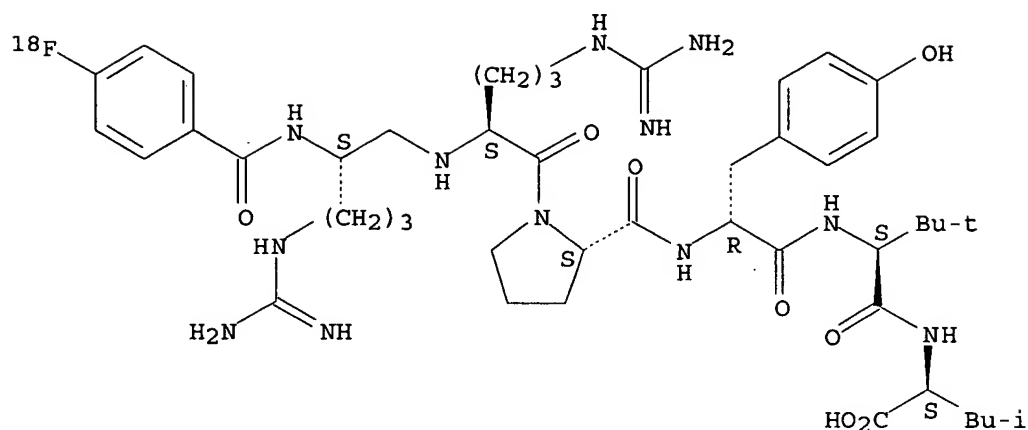
Absolute stereochemistry.



RN 502923-56-0 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-D-tyrosyl-3-methyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:174815 CAPLUS

DOCUMENT NUMBER: 137:353283

TITLE: F-18 peptide labelling: neurotensin derivatives

AUTHOR(S): Scheunemann, M.; Mading, P.; Bergmann, R.; Steinbach, J.; Iterbeke, K.; Tourwe, D.; Johannsen, B.

CORPORATE SOURCE: Institut für Bioanorganische und Radiopharmazeutische Chemie, Dresden, 01314, Germany

SOURCE: Synthesis and Applications of Isotopically Labelled Compounds, Proceedings of the International Symposium, 7th, Dresden, Germany, June 18-22, 2000 (2001), Meeting Date 2000, 380-383. Editor(s): Pleiss, Ulrich; Voges, Rolf. John Wiley & Sons Ltd.: Chichester, UK.

CODEN: 69CIJC; ISBN: 0-471-49501-8

DOCUMENT TYPE: Conference

LANGUAGE: English

ED Entered STN: 11 Mar 2002

AB A symposium report. N-succinimidyl 4-[18F]fluorobenzoate was applied to the specific radiolabeling of non-lysine containing oligopeptides of neurotensin (NT) such as hexapeptide NT(8-13), [Arg8Ψ(CH2NH)Arg9]NT(8-13), and [Arg8Ψ(CH2NH)Arg9,Tle12]NT(8-13) at the α-amino group of the N-terminal arginine unit.

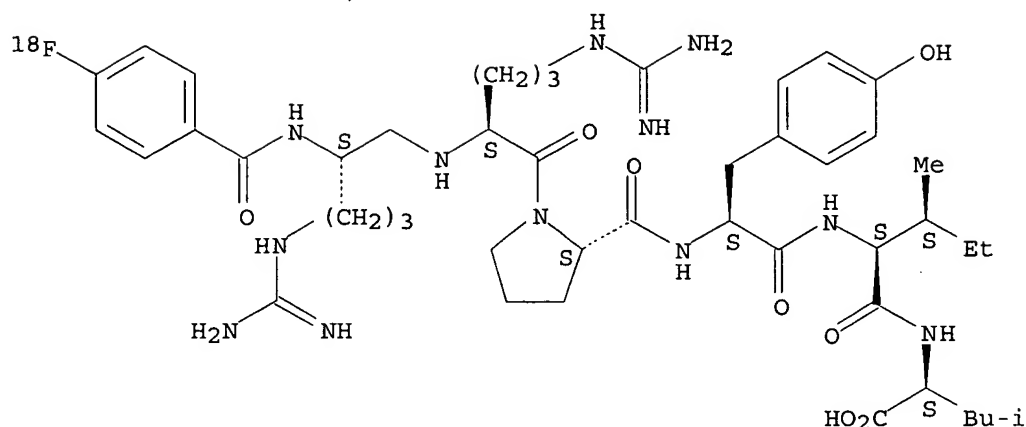
IT 266352-47-0P 406486-48-4P

RL: SPN (Synthetic preparation); PREP (Preparation) (fluorine-18 labeling of neurotensin derivs.)

RN 266352-47-0 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl- (9CI) (CA INDEX NAME)

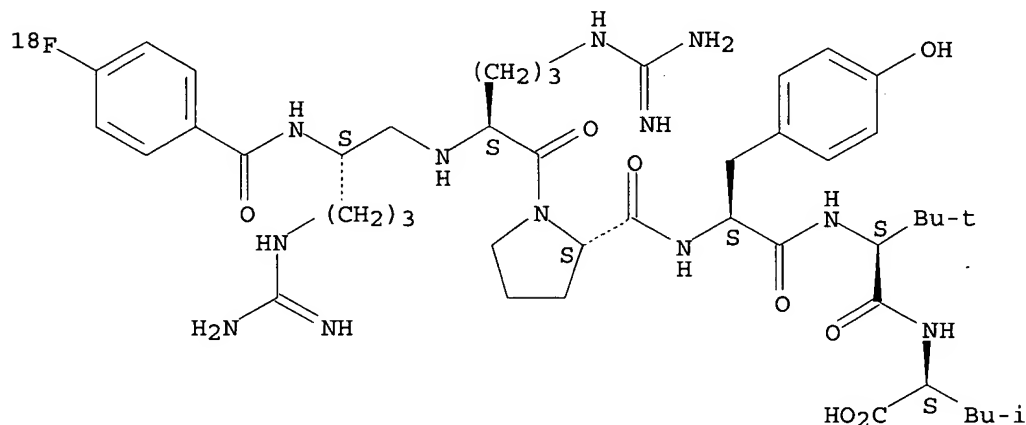
Absolute stereochemistry.



RN 406486-48-4 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:894782 CAPLUS

DOCUMENT NUMBER: 134:202782

TITLE: Increased serum stability of neurotensin analogs containing arginine mimics

AUTHOR(S): Schmidt, Michelle A.; Erion, Jack L.; Chinen, Lori K.; Bugaj, Joseph E.; Wilhelm, R. Randy; Srinivasan, Ananth

CORPORATE SOURCE: Discovery Research, Mallinckrodt, Inc., Hazelwood, MO, 63042, USA

SOURCE: Peptides for the New Millennium, Proceedings of the American Peptide Symposium, 16th, Minneapolis, MN, United States, June 26-July 1, 1999 (2000), Meeting Date 1999, 634-635. Editor(s): Fields, Gregg B.; Tam, James P.; Barany, George. Kluwer Academic Publishers:

Dordrecht, Neth.

CODEN: 69ATHX

DOCUMENT TYPE:

Conference

LANGUAGE:

English

ED Entered STN: 21 Dec 2000

AB Novel neurotensin derivs. were prepared by initially replacing one or both arginines of NT(6-13) with a com.-available arginine mimic. While serum stability was improved by the incorporation of Arg mimics, there was still less than 20% intact peptide remaining at 4 h in each case. The presence of serum degradation products with slightly shorter retention times than the intact peptide in HPLC anal. suggested that another region of instability was near the C-terminus (data not shown). To address this issue, derivs. with C-terminal modifications were prepared which retained the Arg mimics responsible for the highest binding affinity. A dramatic improvement in serum stability was observed with derivs. containing an unnatural amino acid (t-butylGly) or a pseudo-peptide bond; however, only two compds. were still active.

IT 328526-77-8 328526-78-9 328526-79-0

328526-80-3 328526-81-4 328526-82-5

328526-83-6 328526-85-8

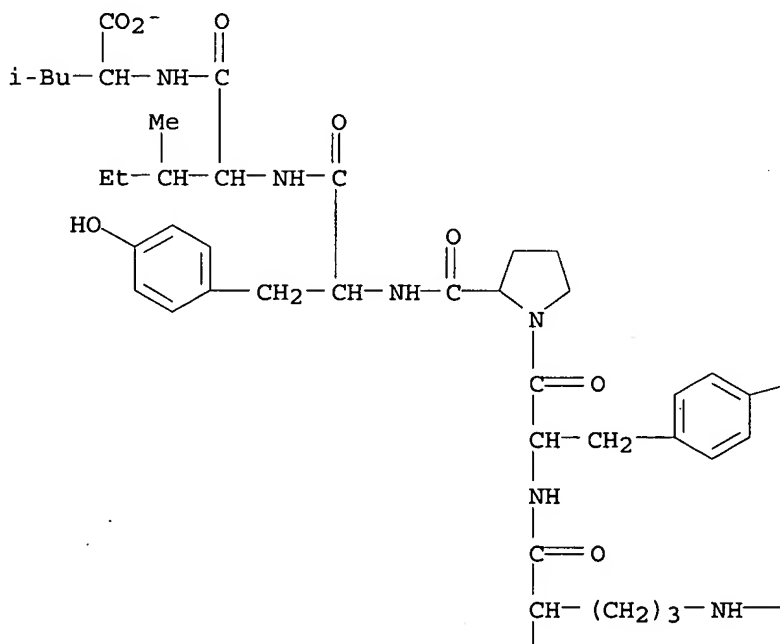
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)

(increased serum stability of neurotensin analogs containing arginine mimics)

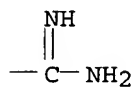
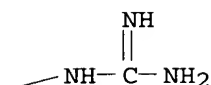
RN 328526-77-8 CAPLUS

CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-L-arginyl-4-[(aminoiminomethyl)amino]-L-phenylalanyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-, dihydrogen (9CI) (CA INDEX NAME)

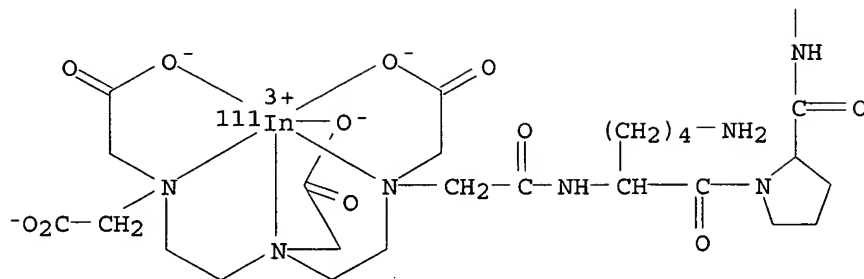
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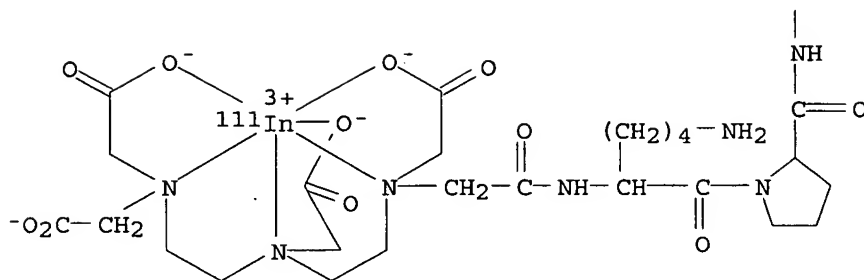


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● 2 H⁺

RN 328526-78-9 CAPLUS
 CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-4-[(aminoiminomethyl)amino]-L-phenylalanyl-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-], dihydrogen (9CI) (CA INDEX NAME)

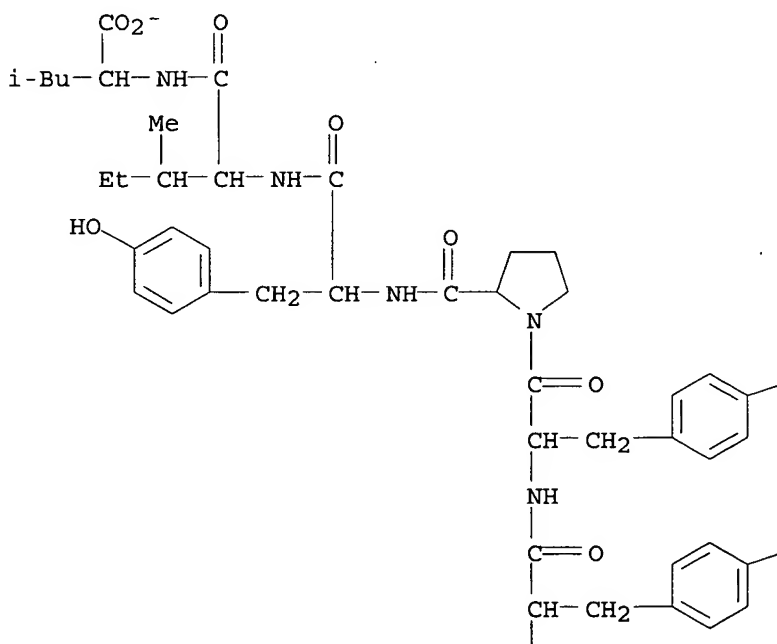
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 $\bullet 2 \text{ H}^+$

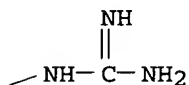
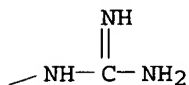
RN 328526-79-0 CAPLUS

CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-4-[(aminoiminomethyl)amino]-L-phenylalanyl-4-[(aminoiminomethyl)amino]-L-phenylalanyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-, dihydrogen(9CI) (CA INDEX NAME)

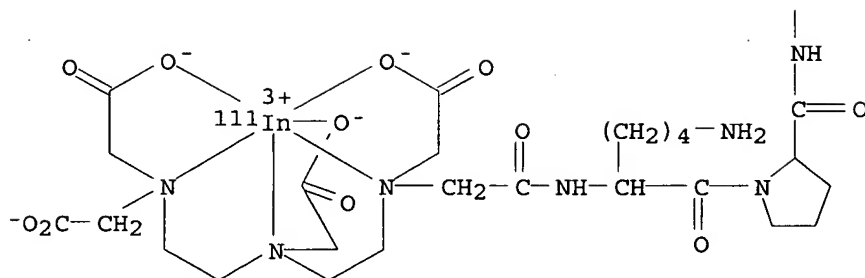
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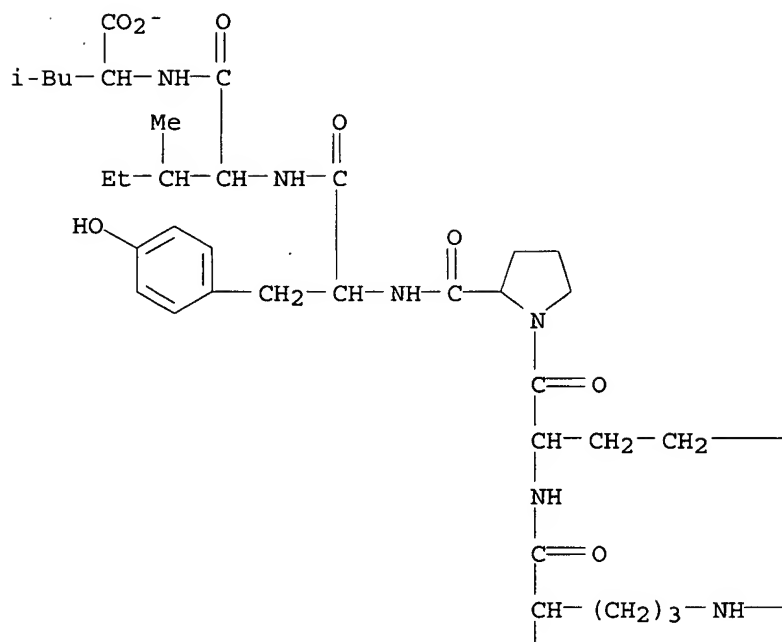


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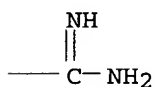
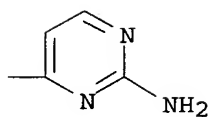
● 2 H⁺

RN 328526-80-3 CAPLUS
 CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-L-arginyl-(αS)-α,2-diamino-4-pyrimidinebutanoyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-, dihydrogen (9CI) (CA INDEX NAME)

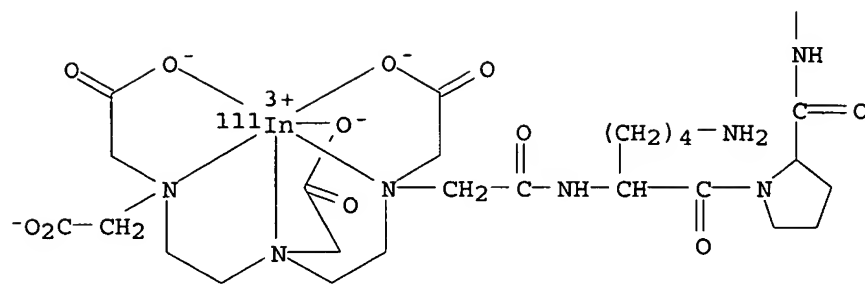
PAGE 1-A



PAGE 1-B



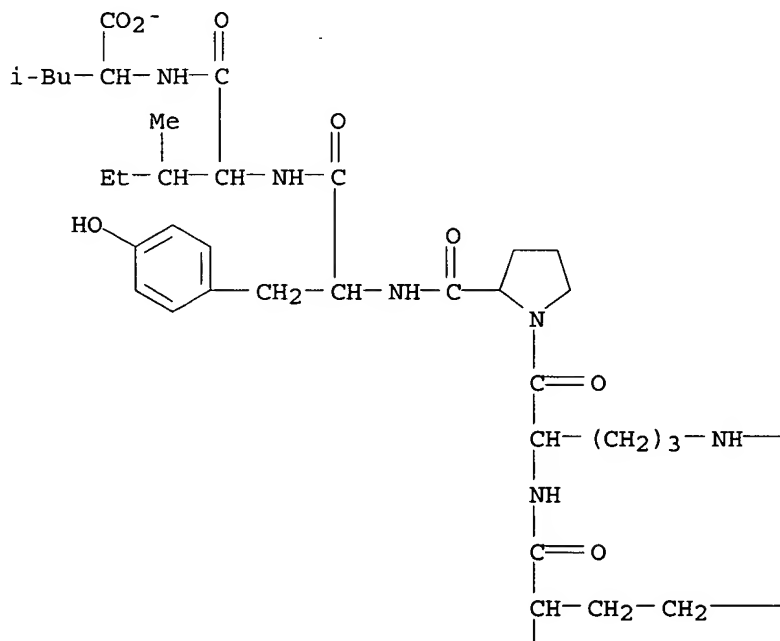
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● 2 H⁺

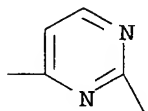
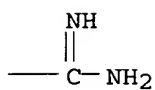
RN 328526-81-4 CAPLUS

CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-(αS)-α,2-diamino-4-pyrimidinebutanoyl-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-], dihydrogen (9CI) (CA INDEX NAME)

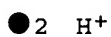
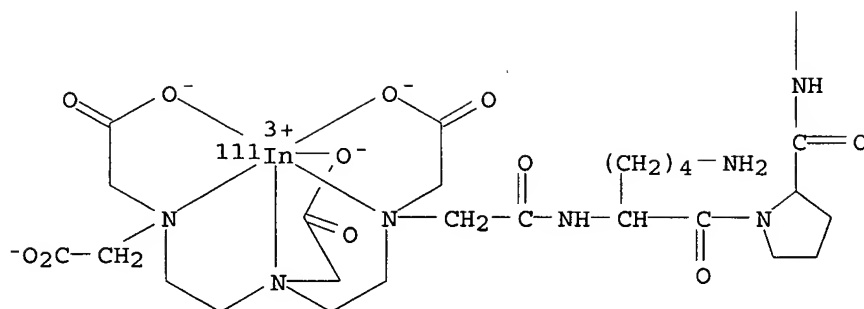
PAGE 1-A



PAGE 1-B



PAGE 2-A



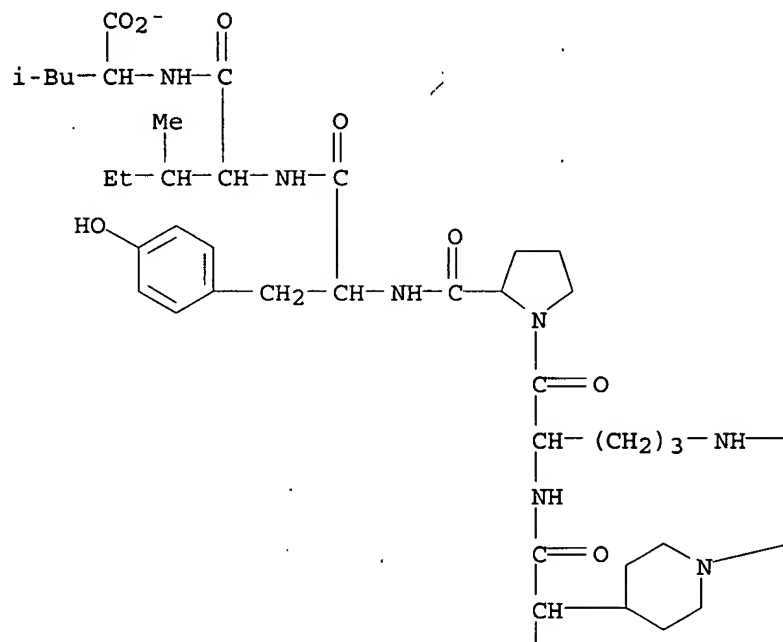
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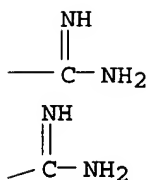
RN 328526-82-5 CAPLUS
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2-[1-(aminoiminomethyl)-4-piperidiny]glycyl-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl-L-leucinato(5-)]-, dihydrogen (9CI) (CA INDEX NAME)

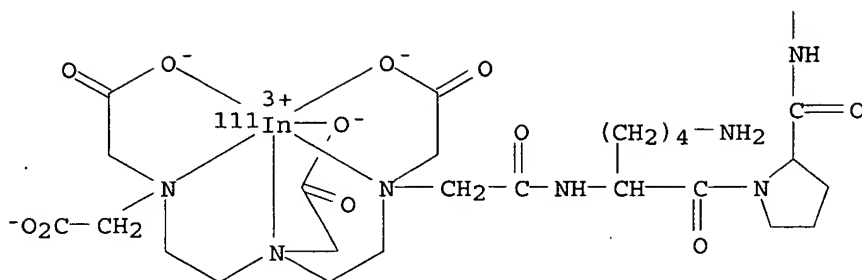
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PAGE 1-B



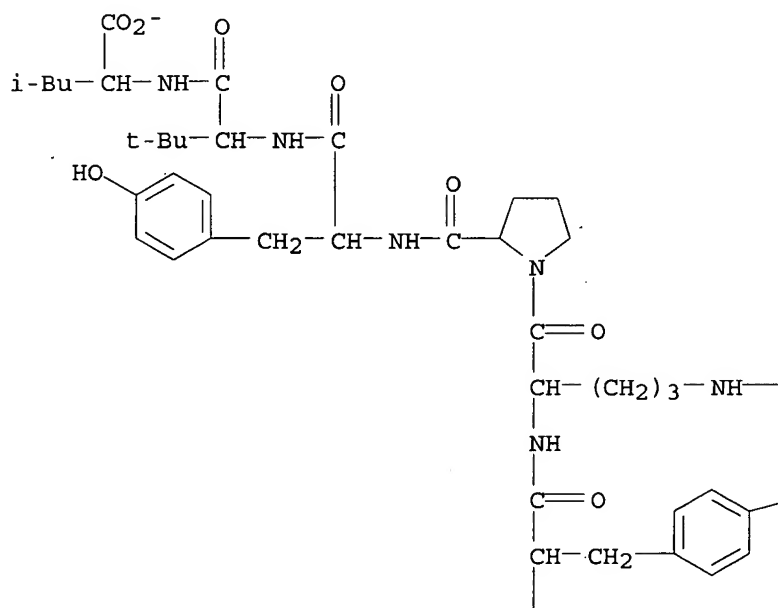
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 $\bullet 2 \text{ H}^+$

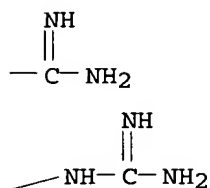
RN 328526-83-6 CAPLUS

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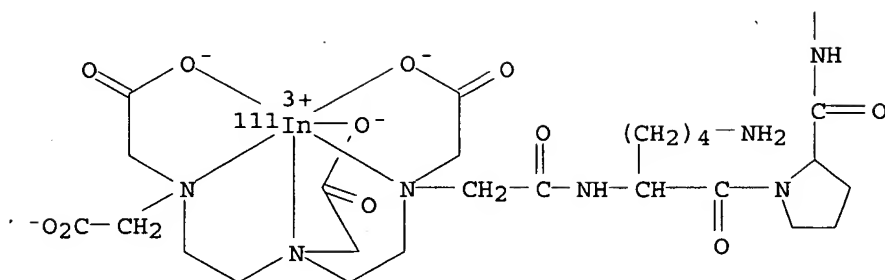
PAGE 1-A



PAGE 1-B



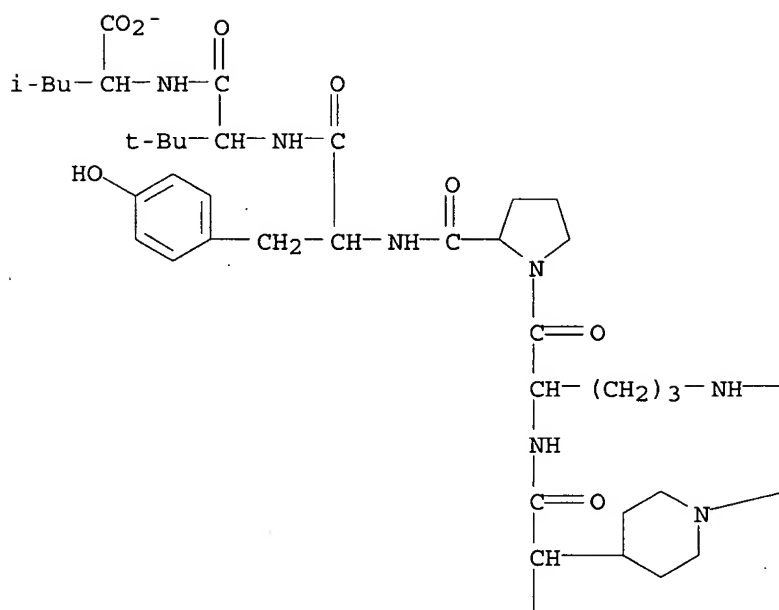
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● 2 H⁺

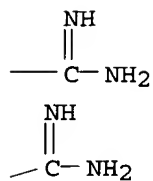
RN 328526-85-8 CAPLUS

CN Indate(2-)-111In, [N-[(carboxy-κO)methyl]-N-[2-[[[(carboxy-κO)methyl][2-[[[(carboxy-κO)methyl](carboxymethyl)amino-κN]ethyl]amino-κN]ethyl]glycyl-κN-D-lysyl-L-prolyl-(2S)-2-[1-(aminoiminomethyl)-4-piperidinyl]glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-L-leucinato(5-)]], dihydrogen (9CI) (CA INDEX NAME)

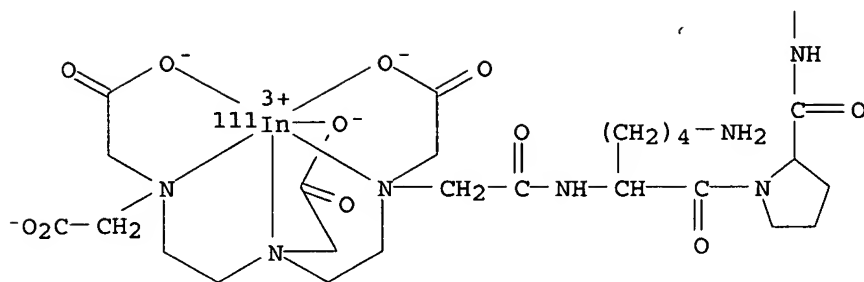
PAGE 1-A



PAGE 1-B



PAGE 2-A

● 2 H⁺

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:64319 CAPLUS

DOCUMENT NUMBER: 132:322121

TITLE: Reaction of neurotensin (8-13) and its partially reduced congener with unlabeled and 18F-labeled N-succinimidyl 4-fluorobenzoate (SFB)

AUTHOR(S): Scheunemann, M.; Mading, P.; Bergmann, R.; Steinbach, J.; Johannsen, B.; Tourwe, D.

CORPORATE SOURCE: Vrije Universiteit Brussel, Belg.

SOURCE: Wissenschaftlich-Technische Berichte - Forschungszentrum Rossendorf (1999), FZR-270, 26-28
CODEN: WBFRFQ; ISSN: 1437-322X

DOCUMENT TYPE: Report

LANGUAGE: German

ED Entered STN: 27 Jan 2000

AB Labeling expts. with neurotensin (NT) (8-13) and partially reduced congener [Arg8Ψ(CH₂NH)Arg9]NT(8-13) as well as arginine and Arg-Tyr were performed using N-succinimidyl fluorobenzoate (SFB) and [18F]SFB. The labeling expts. revealed that [18F]SFB reacts with N-terminal Arg-peptides with reasonably good chemoselectivity in aqueous buffered solns., preferably at pH 8.3.

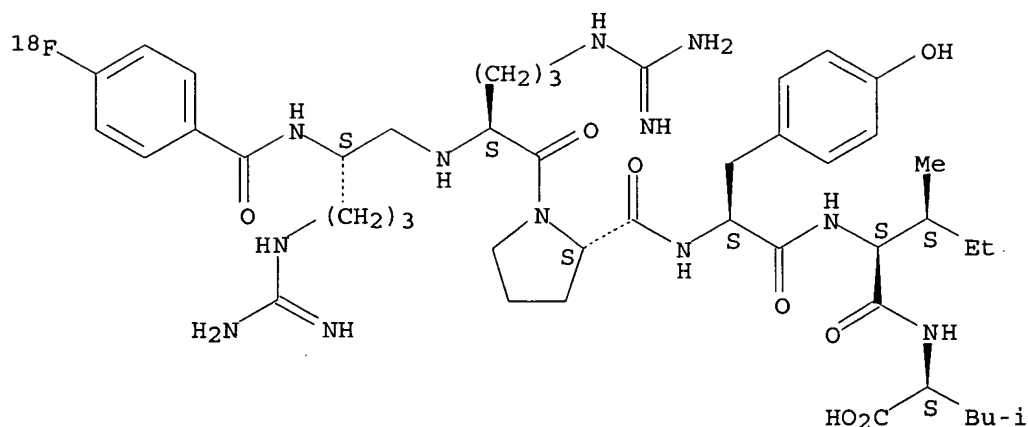
IT 266352-47-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(reaction of neurotensin with unlabeled and 18F-labeled succinimidyl fluorobenzoate)

RN 266352-47-0 CAPLUS

CN L-Leucine, N2-[(2S)-5-[(aminoiminomethyl)amino]-2-[[4-(fluoro-18F)benzoyl]amino]pentyl]-L-arginyl-L-prolyl-L-tyrosyl-L-isoleucyl- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 11 OF 11 PROUSDDR COPYRIGHT 2005 PROUS SCIENCE on STN

ACCESSION NUMBER: 2003:6476 PROUSDDR

DOCUMENT NUMBER: 343678

CHEMICAL NAME: (N-(2-(N-(2-(N,N-Bis(carboxymethyl)amino)ethyl)-N-(carboxymethyl)amino)ethyl)-N-(carboxymethyl)glycyl-2-(4-piperidinyl)-L-glycyl-L-prolyl-2-(1-amidinopiperidin-4-yl)-L-glycyl-L-arginyl-L-prolyl-L-tyrosyl-3-methyl-L-valyl-L-leucinato(3-))indium-111In

CAS REGISTRY NUMBER: 314295-66-4 (uncomplexed)

MOLECULAR FORMULA: C66 H103 N18 O19 . In

HIGHEST DEV. PHASE: PRECLINICAL

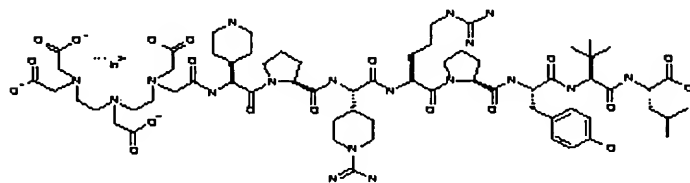
ORIGINATOR: Mallinckrodt

CLASSIFICATION CODE: Diagnostic for Cancer; Drug Delivery Systems

ENTRY DATE: Entered STN: 9 May 2004

Last Updated on STN: 9 May 2004

STRUCTURE:



PROUS REFERENCES:

RefID: 745062 (Text Available)

Drug Data Report, Vol. 25, No. 8, pp 766, 2003

REFERENCE TEXT:

RefID: 745062

ACTION -111In-Labeled DTPA-neurotensin peptide analogue conjugate for the delivery of cytotoxic and imaging agents to tumors. It showed high binding affinity for the neurotensin receptor in human

adenocarcinoma HT-29 cells (IC50 = 0.3 nM) and high metabolic stability in human serum and rat urine. Studies in SCID mice bearing neurotensin receptor-positive HT-29 xenografts demonstrated selective uptake of compound by tumor tissue following i.v. administration via a neurotensin receptor-specific mechanism.

PATENT REFERENCES:

TITLE: Labeled neurotensin derivs.
INVENTOR(S): Srinivasan, A.; Erion, J.L.; Schmidt, M.A.
PATENT ASSIGNEE(S): Mallinckrodt
PATENT INFORMATION: EP 1194444 20020410
WO_2000078796 20001228
PRIORITY INFORMATION: US 1999-140913 19990624
US 2000-213068 20000621

REFERENCES:

- (1) RefID: 744694, Periodic Publication
"Novel bioactive and stable neurotensin peptide analogues capable of delivering radiopharmaceuticals and molecular beacons to tumors"
Achilefu, S.; Srinivasan, A.; Schmidt, M.A.; Jimenez, H.N.; Bugaj, J.E.; Erion, J.L., J Med Chem, Vol. 46, No. 15, pp 3403, 2003

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